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ABSTRACT

This document records the text of bill H.R. 10736 and presents statements, testimony, and suggestions for modification made by various individuals. The bill provides for the establishment of projects to educate, motivate, and encourage economically disadvantaged secondary school students to pursue training at the undergraduate and graduate levels in the biomedical sciences. Its implementation would potentially accomplish the following goals: (1) to educate and train a large number of health professionals who would be likely to practice in medically underserved areas; (2) to make safer living and working environments and good nutrition available to those usually destined to a life of poverty; and (3) to motivate individuals from disadvantaged backgrounds to adopt safer/healthier personal behavior patterns. (Author/EB)

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PART 22: BIOMEDICAL ENRICHMENT PROGRAMS FOR DISADVANTAGED SECONDARY SCHOOL STUDENTS

HEARING

BEFORE THE

SUBCOMMITTEE ON ELEMENTARY, SECONDARY, AND VOCATIONAL EDUCATION

OF THE

COMMITTEE ON EDUCATION AND LABOR HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS

SECOND SESSION

ON

H.R. 10736

TO AMEND THE ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965 TO ESTABLISH PROJECTS TO EDUCATE, MOTIVATE, AND ENCOURAGE SECONDARY SCHOOL STUDENTS FROM AN ECONOMICALLY DISADVANTAGED BACKGROUND TO PURSUE TRAINING AT THE UNDERGRADUATE AND GRADUATE LEVELS IN THE BIOMEDICAL SCIENCES

HEARING HELD IN WASHINGTON, D.C.
MARCH 2, 1978

Printed for the Committee on Education and Labor
CARL D. PERKINS, *Chairman*

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PART 22: BIOMEDICAL ENRICHMENT PROGRAMS FOR DISADVANTAGED SECONDARY SCHOOL STUDENTS

THURSDAY, MARCH 2, 1978

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ELEMENTARY, SECONDARY,
AND VOCATIONAL EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:40 a.m., in room 2175, Rayburn House Office Building, Hon. Carl D. Perkins (chairman of the subcommittee) presiding.

Members present: Representatives Perkins, Mottl, Kildee, Buchanan, and Pettis.

Staff present: John F. Jennings, majority counsel; Christopher Cross, minority staff director; and Nancy L. Kober, staff assistant.

Chairman PERKINS. The subcommittee will come to order. A quorum is present.

The Subcommittee on Elementary, Secondary, and Vocational Education is conducting a hearing today on H.R. 10736, a bill authorizing biomedical enrichment programs for secondary school students from disadvantaged backgrounds.

The purpose of the legislation is to provide the necessary educational motivation to enable these disadvantaged students to successfully pursue careers in the health professions.

[The text and program requirements of H.R. 10736 follow:]

95TH CONGRESS
2D SESSION

H. R. 10736

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 2, 1978

Mr. PEPPER (for himself, Mrs. CHISHOLM, and Mr. ROYBAL) introduced the following bill; which was referred to the Committee on Education and Labor

A BILL

To amend the Elementary and Secondary Education Act of 1965 to establish projects to educate, motivate, and encourage secondary school students from an economically disadvantaged background to pursue training at the undergraduate and graduate levels in the biomedical sciences.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Elementary and Secondary Education Act of 1965 is amended—

(1) by striking out "and VII" before paragraph (a) in section 801 (20 U.S.C. 881) and inserting in lieu thereof "VII, and X"; and

(2) by adding after section 907 (20 U.S.C. 900a–5) the following new title:

"TITLE X—SPECIAL PROJECTS IN THE BIOMEDICAL SCIENCES FOR SECONDARY SCHOOL STUDENTS FROM AN ECONOMICALLY DISADVANTAGED BACKGROUND

"FINDINGS AND PURPOSE

"SEC. 1001. It is the purpose of this title to—

"(1) introduce secondary students from an economically disadvantaged background to the challenges, opportunities, and needs of serving in communities which have a need for professionals trained in the biomedical sciences and which have an underrepresentation of individuals from such a disadvantaged background serving as medical professionals;

"(2) motivate and educate these students to successfully pursue careers in the biomedical sciences;

"(3) develop academic, cognitive, and communicative skills in these students;

"(4) rectify disadvantages resulting from foreign language barriers; and

"(5) instill awareness and concern in these students for the health of their families and communities;

by offering these students an intensive academic program

in mathematics, the sciences, and English, study skill development, experiences in laboratory and health care delivery settings, and frequent exposure to individuals trained, or receiving training, in the biomedical sciences.

"DEFINITIONS

"SEC. 1002. For the purposes of this title:

"(1) The term 'applicant' means an institution which has made application under section 1005 for assistance under this title.

"(2) The term 'biomedical science' means a field relevant to the study of human biology, and includes chemistry, biology, medicine, dentistry, osteopathy, optometry, podiatry, pharmacy, and public health.

"(3) The term 'full participant' means, with respect to a project conducted in an academic year, a student who has participated satisfactorily in the project for not less than one hundred hours in the academic year.

"(4) The term 'project' means a project funded under this title.

"(5) The term 'public secondary school system' includes a secondary school system operated predominantly for Indian children and operated by, or receiving financial assistance from, the Department of the Interior.

"(6) The term 'school of biomedical science' means

an institution of higher education which provides training leading to a doctorate or master's degree in a biomedical science.

"(7) The term 'student from an economically disadvantaged background' means an individual (A) who is enrolled in good standing in the ninth, tenth, eleventh, or twelfth grade of a secondary school and (B) the income of whose family provides only for basic necessities, such as food, housing, clothing, and transportation.

"(8) The term 'talented student from an economically disadvantaged background' means a student from an economically disadvantaged background who has demonstrated such proficiency or potential as will enable the student, after satisfactory participation in a project, to undertake successfully a course of study in a biomedical science at an institution of higher education. Such proficiency or potential shall be determined in a manner such that (A) a student from a non-English speaking background is not penalized for the student's lack of proficiency in English, and (B) due notice is taken of cultural and linguistic biases inherent in traditional testing methods.

"(9) The term 'target student' means, with respect to a project offered in an academic year in cooperation with a secondary school system or systems, a talented

student from an economically disadvantaged background who is enrolled in the school system or systems in the academic year—

"(A) in the ninth or tenth grade, or

"(B) in the eleventh or twelfth grade and who has participated satisfactorily in a project (or in a program comparable to a project) for not less than one hundred hours during the student's enrollment in the ninth or tenth grade in a school system.

"PROJECTS TO EDUCATE, MOTIVATE, AND ENCOURAGE STUDENTS FROM AN ECONOMICALLY DISADVANTAGED BACKGROUND TO PURSUE TRAINING AT THE UNDERGRADUATE AND GRADUATE LEVELS IN THE BIOMEDICAL SCIENCES

"SEC. 1003. (a) To the extent provided in appropriation Acts, the Commissioner is authorized to make grants to and enter into contracts with institutions of higher education for the purpose of offering projects to educate, motivate, and encourage students from an economically disadvantaged background to pursue training at the undergraduate and graduate levels in the biomedical sciences.

"(b) The Commissioner, in his selection among applications meeting the requirements for approval under section 1005, shall (1) give priority to each such qualified application that proposes the offering of a program not previously

offered, (2) give special consideration to each such qualified application that proposes the offering of a project to students enrolled in secondary schools located in a health manpower shortage area (designated under section 332 of the Public Health Service Act) or in a rural area, and (3) take into account the location where the project is proposed to be offered to assure that projects are offered in a diversity of geographic settings.

"(c) The amount of money to be provided, under any grant or contract entered into for a project, for a single fiscal year may not exceed an amount equal to $2,400 for each talented student from an economically disadvantaged background who has participated in the project for not less than one hundred hours during the academic year ending in that fiscal year.

"PROJECT ACTIVITIES

"SEC. 1004. (a) Each project funded under this title shall—

"(1) except as provided in subsection (b), extend over a multiyear grant or contract period of at least five academic years;

"(2) (A) be carried out in cooperation with a public secondary school system, or with a combination of such systems, that is located in the area in which the applicant is located and that has a relatively high propor-

tion, as determined by the Commissioner, of students from an economically disadvantaged background enrolled in the secondary schools in such system, and (B) involve in a formal role in policymaking decisions in the project an individual who is employed at an administrative level, no lower than principal or dean, in a secondary school target students of which are participating in the project;

"(3) be conducted, to the extent feasible, in a manner which does not conflict with a student's participation in extracurricular activities of the school in which he is enrolled;

"(4) provide that not less than one hundred talented students from an economically disadvantaged background, who are enrolled in the ninth grade in such public school system or systems in each academic year in which the project is offered, are full participants in the project in such academic year;

"(5) provide for validation of the participation of a target student in such project by a science teacher or the parent or guardian of such student;

"(6) make arrangements to use in such project—

"(A) the research and other facilities and personnel of schools of biomedical science located in the area in which such project is offered;

"(B) the special knowledge of individuals from economically disadvantaged backgrounds who live in the area in which such project is offered and who are employed in the biomedical sciences;

"(C) the expertise of teachers in secondary schools and institutions of higher education located in the area in which such project is offered; and

"(D) the talents and experience of other groups located in the area in which such project is offered, such as parent-teacher associations, foundations, civic groups, and professional organizations, which would further the goals of such project;

"(7) expose target students to professionals trained in the biomedical sciences and to the resources of the biomedical sciences, including those described in paragraph (6), and such other academic and health-related experiences as are designed to—

"(A) inform and educate such students to the challenges, opportunities, and needs of serving in the biomedical science professions;

"(B) educate and motivate such students to pursue successfully careers in the biomedical sciences;

"(C) cultivate the development of academic

cognitive, and communication skills in such students; and

"(D) instill awareness, concern, and information in such students for the health of their families and communities;

"(8)(A) provide counseling to target students who are participating, and to individuals who were such students and who were full participants in an academic year, in the project on the range of opportunities available in the biomedical sciences upon completion of high school, college, and professional training, and on the financial and other prerequisites to pursue such opportunities, and (B) inform parents of participating students of the goals and structure of the project and provide opportunities for the involvement of these parents in the project.

"(9) provide for the offering for target students, by a school of biomedical science during each academic year of such project, of a course or courses which—

"(A) are in one or more of the biomedical sciences,

"(B) encompass at least one hundred hours of classroom, laboratory, and fieldwork experience, and

"(C) use the facilities of such school, including laboratories, libraries, classrooms, audiovisual equipment, conference and meeting rooms, and other necessary facilities;

"(10) provide for the offering—

"(A) on the campus of the applicant or of a cooperating undergraduate institution of higher education,

"(B) in the summer following each academic year of the project, and

"(C) for each individual who was a target student and a full participant in the project in the previous academic year,

of a summer program consisting of at least six weeks of intensive academic study taught by college faculty and graduate students in mathematics, the sciences, English, and such related subjects as promotes the purposes of this title; and

"(11) provide for the following (through qualitative assessments by a student's teachers and professors and through documentation of a student's cumulative grade point average in high school, scholastic aptitude test scores, acceptances to colleges and universities, and grade point average and major pursued during attend-

ance at a college or university) of each individual who was a target student and a full participant in the project in an academic year in which the project is offered, to evaluate the impact of the project on the careers pursued by former participants in the project.

"(b) The Commissioner may not provide funds under this title to an institution for a project (other than for the part of the project described in subsection (a) (11)) during an academic year (hereinafter in this subsection referred to as the 'project year') occurring after the second academic year of the project unless—

"(1) the number of target students who were enrolled in the tenth grade and were full participants in the project in the academic year preceding the project year is not less than 50 percent of the number of target students who were enrolled in the ninth grade and were full participants in the project in the second academic year preceding the project year; and

"(2) not less than 50 percent of the particular target students who were enrolled in the tenth or eleventh grade and were full participants in the project in the second academic year preceding the project year also were full participants in the project during the academic year preceding the project year.

"APPLICATIONS

"SEC. 1005. (a) Any institution desiring assistance under this title shall make application therefor in accordance with the provisions of this title and other applicable law and with regulations of the Commissioner promulgated for the purposes of this title. The Commissioner shall approve an application under this title only if he determines that the project for which the application seeks assistance—

"(1) will be operated by the applicant and that the applicant will carry out such project in accordance with this title; and

"(2) will provide for the activities described in section 1004(a).

"(b) In approving an application for assistance under this title, the Commissioner shall insure that there is cooperation and coordination of efforts among the projects, including the exchange of materials and information among such projects.

"USE OF FUNDS

"SEC. 1006. (a) Funds appropriated to carry out projects under this title may be used to cover all or part of the cost of establishing and carrying out projects, including the cost of stipends, allowances, travel, and subsistence expenses (in such amounts as may be determined in accordance with regulations of the Commissioner) to target students during

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their participation in a summer program offered pursuant to section 1004(a)(10).

"(b) Each target student who is participating on an essentially full-time basis in a project may be paid a stipend in an amount not in excess of $30 per month, except in exceptional cases as determined by the Commissioner.

"(c) No project may be paid, for any one fiscal year, an amount greater than an amount equal to $2,400 for each target student who was a full participant in the project in the academic year ending in that fiscal year.

"APPROPRIATIONS AUTHORIZED

"SEC. 1007. (a) For the purpose of carrying out projects under this title, there are authorized to be appropriated $40,000,000 for the fiscal year ending September 30, 1979.

"(b) Of the funds appropriated pursuant to subsection (a), an amount not to exceed $5,000,000 shall be used for the purpose of conducting evaluations of the projects authorized under this title.

"(c) Sums appropriated pursuant to this section shall remain available for expenditure and obligation on or before September 30, 1983.".

PROGRAM REQUIREMENTS-H.R. 10736

1. Projects will be of at least 5 years duration and shall be carried out in conjunction with one or more public secondary school systems, including schools operated by the Dept. of Interior for American Indians.

2. At least 100 ninth grade students must be full participants (i.e. must participate for at least 100 hours) during each academic year of the project.

3. One or more courses in the biomedical sciences must be offered, with a minimum overall requirement for the project of 100 hours of classroom, laboratory and fieldwork. Note, however, that requirements for full participation demand that students attend at least 100 hours of project offerings, so it is likely that more than 100 hours will be scheduled.

4. Each project must include a summer program of at least 6 weeks duration between each academic year of the project. These summer sessions may include additional science courses, study skills, English, fieldwork etc..

5. Validation of student participation is required by the teacher, parent or guardian. This may be as simple as taking attendance.

6. Each project must involve an individual in a formal policy decision-making role who is at the level at least of dean or principal at a secondary school which has participating students enrolled.

7. The projects shall use the facilities and personnel of area schools of biomedical science; local teachers, community and civic groups, professional organizations and other community resources should be used as well; and the participating students should be exposed to professionals in the biomedical sciences as both role models and educators.

8. The projects shall also provide counselling to participating students concerning the opportunities, challenges and realties of pursuing a career in the health professions; and the parents of the students shall be informed as to the aims of the project, and shall be afforded opportunities to become involved in the project.

TWO LIMITATIONS ON PROJECT FUNDING

9. The Commissioner of Education shall not provide funds for a project after the second year of the project unless the number of tenth graders enrolled in the project in its second year was at least half the number of ninth graders who were so enrolled during the first year, and

10. At least half of the Students who actually participated in the project as sophomores and juniors two years previously also remained in the project for the year just completed, when they were juniors and seniors.

Chairman PERKINS. I am pleased to welcome before this subcommittee three distinguished co-sponsors of this legislation, Congressman Pepper, Congresswoman Chisholm, and Congressman Roybal, who is not here at this time, but who I understand will be here.

All of these Members have made significant contributions to education in general, and all of them have expressed their concern for *improving access of* disadvantaged students to biomedical education and access of persons in poor communities to quality health care.

In addition, we will hear testimony from directors and students who have had experience with programs similar to the one proposed in the legislation.

Since Senator Pepper is scheduled for another meeting, we will hear from him first.

Please go ahead.

STATEMENT OF HON. CLAUDE PEPPER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. PEPPER. Thank you very much, Mr. Chairman. I thank my gracious colleague here, the distinguished lady from New York, for allowing me to go ahead because I have to chair a meeting at 10 o'clock this morning.

Mr. Chairman, I am very grateful for the opportunity to appear before your distinguished subcommittee today, and we thank you very much for the consideration you are today giving to H.R. 10736.

I am honored to be joined by my distinguished colleagues, Mrs. Shirley Chisholm and Mr. Edward Roybal, in support of this legislation which amends the Elementary and Secondary Education Act to provide for special enrichment programs in the basic sciences for secondary school students from disadvantaged backgrounds.

The aim of this legislation is to give the necessary educational motivation and stimulation that will enable these students to successfully pursue a career in the health professions. In other words, we don't think anybody ought to be given a charitable status, but we want to qualify students to deserve a position in our best institutions.

Many members of this committee will recall that in the last Congress, and in the first session of the 95th Congress, I introduced legislation similar to H.R. 10736, although the earlier bills (H.R. 3432 and 3433 and others) provided only for research and demonstration projects along the lines provided for in the legislation we discuss today.

I submit, as will the several witnesses who follow me, that this type of early assistance education has, in fact, proven itself in numerous programs around the country and, as the agenda shows, there are several persons involved with these programs with us this morning.

The bill before us has undergone extensive review and revision as a result of these successes and now calls, we think, for the establishment of ongoing programs to be offered by biomedical institutions in conjunction with public secondary school systems and administered by the Commissioner of Education.

Mr. Chairman, I do not think anyone quarrels with these facts. There is an under-representation of minorities in the health pro-

fessions, and first-year minority enrollment of American medical schools in recent years is discouraging, particularly when medical school is a primary means to increase the absolute numbers and proportional representation of minorities in the health fields.

Mr. Chairman, I was invited to speak before the National Medical Association, mostly black members and doctors, in Miami Beach. After speaking to the group, I met with a number of them, and I found out that there are not appreciably more black doctors now than there were years and years ago when this organization was founded. This was the incentive for my making the initial decision that led me to participate in this program.

Very importantly, moreover, we are all aware that many Americans find it difficult or impossible to obtain primary health care because they live in areas of the country which have despairingly few or no accessible physicians. The rural and inner-city areas of our country are the saddest examples of this deficiency in primary care personnel.

In some central areas of New York City, I am told, there are no doctors for literally thousands of persons. Non-metropolitan areas with populations under 10,000 possess an average of one doctor for every 2,512 individuals, whereas in metropolitan areas, there are 511 individuals per doctor.

Coupled with this maldistribution problem is the low percentage of minority enrollment in our health professions institutions. The association of American Medical Colleges has done several studies on this problem and endorsed a report in 1970, as did the American Hospital Association and the American Medical Association, which recommended that U.S. medical schools increase the number of enrolled black students from 2.8 percent in 1968 to a target of at least 12 percent by 1975–76.

Some progress was made in the early years only to see the number of newly enrolled black students remain relatively stable during 1971 to 1975. The latest AMA figures, moreover, show total black enrollment at only 6.1 percent, and total minority enrollment at only 8.2 percent, a level widely disproportionate to the numbers in the general population.

The situation for our dental schools is not much better, with total enrollment of black Americans, Puerto Ricans, Mexican Americans, and American Indians at only 9.7 percent, while a proportional representation of blacks alone should be greater than 10 percent. In the profession of osteopathy, furthermore, only one percent of these primary care professionals are minorities, and underrepresentation persists in osteopathic enrollment.

I believe this pattern of underrepresentation has its basis in several traditional and sociological phenomena, including the usual method of financing public education through property taxes, the alternatives for and limitations upon an individual which derive from membership in certain socio-economic classes, and the particular awareness of educational, career, and professional opportunities that also are attributable to one's family income level.

When we take a close look at students who enter medical school, and even at those who have expressed an interest in the health professions as early as their freshman year in college, we reveal some

remarkable characteristics—remarkable in the sense that they are unsurprising, so approachable and so glaringly in need of rectification.

The greatest percentage of minority medical school applicants and minority freshmen aspiring to careers in the health professions are from families whose income is below $10,000 per year.

Disturbingly, however, family socio-economic status has been shown to correlate with performance on standardization evaluators such as the medical college admission test and also with grade point average.

Very simply, individuals from low-income families do not perform well on these evaluators compared with students from a non-disadvantaged background. This performance difference has been cited as a reason for the small percentage of minority students enrolling in and completing medical school, and alternative criteria or preferential admissions policies were seen as a means to overcome this problem.

These methods improved the overall picture somewhat, but for other reasons the progress made in the last several years has recently stagnated. Some of these reasons may include a reduced pool of prospective minority doctors, the uproar that has arisen from court challenges to preferential admissions policies, and the intense competition for a place in medical school which results in the rejection each year of thousands of qualified caucasian students.

Regardless of the reasons for underrepresentation, however, the low percentages of minorities in the biomedical schools takes on an even more startling perspective when one realizes that the need to repeat the first year of graduate education is far greater for the minority student than for all others.

Blacks, for example, have a repeat rate of 14.4 percent, Mexican Americans of 13.9 percent, Puerto Ricans of 9.9 percent, and American Indians of 2.8 percent. These figures compare with a repeat for all other students of only 1.2 percent.

Very significantly, moreover, it has been shown that black students whose family income is less than $5,000 per year have a promotion rate of only 71 percent, whereas all blacks have a rate of 95.6 percent. The figure for caucasians, who also have a greater mean income, is over 99 percent.

The question before us, Mr. Chairman, and members of the committee, is how do we achieve the desired goals of obtaining more doctors and health personnel to serve the areas of our country which need them, and also, how do we get greater numbers of disadvantaged students to pursue, and more importantly, to succeed in a biomedical career?

Happily, Mr. Chairman, the two goals can be met as one to a large degree, as indications are that students from the very areas which are designated as health manpower shortage areas, are much more likely to return to these areas after receiving their health training than are students from other areas.

This has been observed for inner-city blacks, south-western Mexican Americans, and rural students in general. They go home to serve.

There are figures on this trend, but the important thing is that disadvantaged students from a rural or inner-city background, whose

parents did not earn enough money to provide them with a broad cultural experience, or whose education did not afford them the necessary background or self-confidence to master a science curriculum and to believe that success in a biomedical career was impossible, will, if given the opportunity, return to serve the people in his home area as a health professional.

The legislation we discuss this morning gives such students this chance. Very importantly, the criteria of "economically disadvantaged" permits individuals of all ethnic backgrounds to be eligible for the projects herein described. This can provide the added boost needed to prepare for college level science curriculums, to compete successfully, and to continue confidently into professional training.

The program established by the bill would provide courses to be offered on a contract basis by area biomedical schools to students in a public school system or systems which the Commissioner determines to have a relatively high proportion of economically disadvantaged students enrolled.

Courses in the basic sciences, the teaching of study skills, and exposure to health professionals as well as to laboratory experiences shall be offered to the students. The basic requirements made of the programs are outlined in the fact sheet before you.

Provisions are made for both an adequately sized program and one of sufficient continuity in terms of retaining students who participate year to year throughout high school so as to assure a substantial impact upon the students.

The courses, laboratory work, field trips, and the like, will take place during both the regular school year and the summer session which is required of each project. Finally, each project will conduct a followup on participating students to determine the impact of the program on the student's decision for a college major and planned career choice.

Mr. Chairman, this legislation is needed now and it is needed for students in our secondary schools. We are faced with what has been and what remains a long-term problem which can only be addressed effectively in the years before college.

Retention programs and special assistance at the college level are costly, and they suffer from the remedial character which attacks self-confidence and which can be eliminated through enrichment programs such as those described in H.R. 10736.

The necessary awareness and preparation that must be developed by an individual who plans for a health-oriented career needs an early start so that future academic demands may be met and future sacrifices anticipated.

Once again, I thank you, Mr. Chairman, and members of the committee for your attention and concern for this matter. I will gladly entertain any questions you might have before I leave to chair hearings on the Select Committee on Aging.

Mr. Chairman, I will just say in conclusion that the accusations that black people do not have the potential of intellectual achievement have long since been destroyed in this country.

Chairman PERKINS. I agree with you wholeheartedly.

Mr. PEPPER. It is just a question of opportunity. When I went from a country school, when I was 10 years old, to a little town, I had never

had anything but they put me in the fifth grade because I had a cousin in the fifth grade, and I had been told in the country school that I could buy a fifth reader.

Well, I had no idea of such problems as were in the fifth grader arithmetic than the man in the moon. I struggled with them, and I tried to answer them. I did fine in everything, but that arithmetic, because I did not have the background in it.

I had a wise teacher. She said: "Look here, you are doing very well. You drop back to the fourth grade arithmetic, then in the summer you make up the fifth grade, and next year you can go into the sixth grade." I did it, and I went right on through.

It was not that I lacked the intelligence. I just never had any experience, any background, or preparation. It is the same way with so many of the disadvantaged students in this country. We try to give them the background that will enable them to carry their own way when they get into colleges and into law schools. We think that it is very important legislation.

Thank you very much.

Chairman PERKINS. Thank you, very much, Senator Pepper.

Mr. Kildee, do you have any questions that you would like to put to Mr. Pepper?

Mr. KILDEE. I want to congratulate you, Mr. Pepper. You gave excellent testimony, and it was very clear.

Chairman PERKINS. Mr. Buchanan?

Mr. BUCHANAN. I want to thank this distinguished son of Alabama, who has been doing missionary work in Florida all these years, for his testimony and for a very fine idea. I want to compliment you for being a wonderful member of this body.

Chairman PERKINS. Thank you very much, Senator.

Mr. KILDEE. I want to comment that Claude Pepper has been a hero, since I have been in high school.

Mr. PEPPER. Thank you very much.

Chairman PERKINS. Go ahead, Mrs. Chisholm.

STATEMENT OF HON. SHIRLEY CHISHOLM, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mrs. CHISHOLM. Thank you very much, Mr. Chairman, and members of this subcommittee.

I am very pleased to join my distinguished colleagues and sponsors of this legislation, Representatives Claude Pepper and Edward Roybal, before you this morning. I would also like to express my deep appreciation to the chairman for his opportunity to present our legislation.

Without question, there has been no one in the U.S. Congress who has better championed the cause of educational opportunity for the disadvantaged than you, Mr. Chairman, and as such we are particularly grateful for your willingness to review this legislation.

Our bill, H.R. 10736, provides for enrichment programs in the biomedical sciences for high school students from disadvantaged backgrounds. We believe and hope that these hearings can serve to make the members of this subcommittee better aware of the under-

representation of minority and disadvantaged Americans in the biomedical sciences.

Furthermore, we hope to present research and data which concludes that reaching into high school is our best way to increase the pool of disadvantaged students who complete medical school.

Lastly, we hope to demonstrate that development of this talent in medically underserved communities is an important way to cope with the maldistribution of health resources which hurt so many urban and rural areas of our Nation.

As you may be aware, although blacks represent at least 12 percent of the population in this country, only some 2 percent of doctors are black. Many people suffer today from a misimpression that through affirmative action, sufficient gains are being made to bring minorities to parity in the medical professions.

A study by the 115-member Association of American Medical Colleges shows that the percentage of blacks among first-year medical students nationally rose from 2.7 percent in 1968 to a high of 7.5 percent in 1974, it has since leveled down to only 6.7 percent.

The statistics for Hispanics are equally grim. According to 1976 figures, only 1.86 percent of the medical students are Hispanic, although there are some 16 million Chicano, Puerto Rican, and Cuban-American citizens in the United States.

It is important to understand that admittance into graduate institutions of biomedical science has become more fiercely competitive than any other field in higher education. According to the American Association of Medical Colleges, last year 45,000 students filed over 300,000 applications for only 15,000 slots in American medical schools.

Basically, for every three students who apply to medical school, only one will be admitted. Yet admission to medical school is actually one of the last stages on the path to a career in medicine. In reality, many of the key factors affecting a student's chances for a biomedical career are determined before he or she even completes the ninth grade.

By the time a student has entered the first year in high school, he or she has to decide whether or not to take the full college prep track in mathematics and science which are essential if they are to be academically competitive as a college undergraduate.

Too often, talented black and brown youngsters are not encouraged to take the extra class in trigonometry, or that special class in lab, or the physics class, and as a result their options for the future are cut off before they even reach college.

I have visited too many secondary schools where even the most talented disadvantaged students are misguided into curriculum which is neither challenging nor rigorous enough to prepare them for an undergraduate program in the sciences.

In the recently published book, "Minorities in Medicine," Dr. Joseph Watson, provost at the University of California at San Diego, has developed data on the lower enrollment rates of area minority high school students in mathematics courses.

Since algebra is usually a prerequisite for college preparatory chemistry and geometry is a prerequisite for college prepatory

physics, efforts to increase disadvantaged and minority student enrollment in these basic mathematics areas are central to any problem to increase disadvantaged student participation in the biomedical fields.

[The information referred to above follows:]

TABLE 8.—MATHEMATICS DATA FOR SELECTED HIGH SCHOOLS IN A SINGLE DISTRICT

High schools	Number of seniors per school	Percentage minority	Percentage in geometry	Percentage in advanced algebra and/or trigonometry
Average of 5 schools	1,000	95	23	12
Average of 2 schools	900	32	42	32
Average of 3 schools	1,100	5	49	42
Districtwide		49	40	21

NOTE.—As the data on the above chart bears out, the larger the minority population is within a secondary school, the smaller the proportion will be of students enrolled in the necessary preparatory classes to pursue a career in the sciences.

Mrs. CHISHOLM. Upon entrance to a college or university, a student interested in attending medical school must immediately immerse himself or herself into a series of courses in chemistry, biology, statistics, and mathematics. Needless to say, a student's reading comprehension must be strong enough to digest voluminous and technical textbooks, and written expression strong enough to present this material with clarity and precision.

In many universities these premedical programs are designed sequentially, so that if a student falters due to inadequate preparation or uncertainty he or she may get out of step for an entire academic year.

Even after a student completes the trying requirements of a premedicine major there remains the stiff competition for a spot in medical school, and much depends on that student's ability to score well on standardized admissions tests known as MCAT's or GRE's.

I have focused on this process so that you may better understand how tortuous the road to a biomedical career is and the serious obstacles which economic disadvantagement places before a student.

H.R. 10736 will enable universities to develop the talent of disadvantaged young people prior to their entry into postsecondary education. The beauty of this program is that it focuses on students at a sufficiently early age, so that they have the opportunity for academic development.

These projects will be conducted by institutions of higher education in cooperation with area high schools and a graduate institution of biomedical science. The projects will run over 5-year periods, and each year another class of students would be phased into the program at the ninth-grade level.

By the time a participating student is ready for college he or she would have had 4 solid years of preparation in the sciences and other curriculum, participation in learn-work positions that give a practical sense of a career in biomedicine, and exposure to disadvantaged individuals who, having succeeded in the struggle to obtain a graduate biomedical degree, can serve as important role models.

The idea of early outreach and enrichment is widely supported. An article in the November 1977 New England Journal of Medicine,

by Dr. Robert Mishell and Mr. Boyd Sleeth, concludes that only by developing effective high school programs can we increase the pool of disadvantaged students applying to medical school and thereby address the underrepresentation of these groups in the medical profession.

A recent study by the Josiah Macy Foundation on Minorities in Medicine proposed similar recommendations for programs of early intervention. Both studies clearly indicate that a Federal role is essential if these programs are to be developed and replicated on a wide enough basis to impact on the chronic underrepresentations of disadvantaged students in these fields.

As a former member of this subcommittee I well realize that your purview is within the realm of education, but I believe I would be extremely remiss if I did not draw out an important correlation.

The statistics presented demonstrate that disadvantaged and particularly minority Americans suffer from unequal access to education and training in the biomedical sciences. Furthermore, it is these disadvantaged communities which themselves suffer most acutely from limited access to physicians and quality health care.

A recent article in the New York Times makes what I believe may be the strongest case for this legislation. In New York City, an area with nearly twice as many physicians per capita as the national average, there are still areas in the inner city with virtually no health care providers.

It struck me to read about two health manpower planning areas in my own congressional district. One is the 20th health manpower planning area, which has over 19,000 residents and only one physician, and the other is the 59th area with 22,000 residents and tragically, again, only one physician in the entire area.

I know that talent exists in my community and that many youngsters aspire to careers of medical service to others, but without the strong educational commitment provided by this legislation I am afraid that we only insure that it will be a dream deferred.

There is no question that the situation I mention is equally prevalent in many of our poverty-stricken rural communities. All that this legislation proposes is that we give the needed educational boost to disadvantaged students who have the proficiency or potential to pursue a career in the biomedical sciences. This is a major way to bring about improved health care in many of our communities.

Later this morning we will have a panel of students who have participated in privately-funded programs similar to those proposed in H.R. 10736. Their experiences, I believe, will speak eloquently to the impact these initiatives can have.

It is my sincere hope that some of you will be inspired by the material presented today, as we have, and that you will work for the inclusion of this program into the Elementary and Secondary Education Act extension which you will be developing in the coming weeks.

The small authorization requested for this program is minimal in comparison to the impact that these programs can have across the Nation.

There are just two points that I want to raise, anticipating perhaps two questions.

It has already been brought to my attention by the members that I have been discussing this legislation with that in my bill I keep using the term "disadvantaged," but most of the data point to the underrepresentation of minorities. Will this program include white students?

Now there is little data about the underrepresentation of disadvantaged whites, although they surely do exist, and they are more pronounced in the rural areas. We believe that this bill addresses students with poor economic background, but furthermore it is our hope, Mr. Chairman, that a good portion of this program will develop in rural areas and thereby develop the talents of young people have an understanding of rural health needs.

Now we are concerned about this active rural participating, bringing people from the rural areas; but you don't have enough biomedical institutions of higher education located near some of those rural communities. What are you going to do?

I hope that the institutions that are nearest to these communities will develop some kind of relations. We also hope, Mr. Chairman, that there will be report language to reflect our concerns that the Commissioner do everything possible to reduce the barriers to rural participation.

To this extent, we hope that even if a graduate biomedical school were not developed in close proximity that there would be provision to work with the nearest graduate biomedical school, and design a program in such a way that for example, the field work or summer program might then take place at that institution, thereby giving to the rural students the necessary exposure that they need, and the enrichment.

Thank you very much.

[Additional material follows:]

The New York Times Dec. 13, 1967

A Virtual Lack of Doctors Found In Some Slum Areas of New York

By Contrast, Health Department Notes Ample Supply in Affluent Manhattan Areas

By RONALD SULLIVAN

In a city that has nearly twice as many physicians per capita as the national average, the New York City Department of Health has found a number of neighborhoods in poverty-stricken areas with grinding health problems that have virtually no physicians to deal with them.

A statistical study just completed by the department has finally pinpointed all of the city's 18,137 physicians — something that has never been accomplished before. While the department did not expect to find many physicians practicing in the South Bronx or in the Bedford-Stuyvesant section of Brooklyn, its top officials expressed shock at not finding any in some neighborhoods.

Moreover the absence of practicing physicians corresponded with new health indexes that confirmed that most of the neighborhoods were in full medical crisis.

Federal Aid to Be Asked

With that in mind, Dr. Pascal J. Imperato, the city's Commissioner of Health, is scheduled to meet today with health officials from the United States Department of Health, Education and Welfare in an effort to get more Federal health aid for these neighborhoods. Dr. Imperato also is expected to ask the Federal officials to consider sending in public-health physicians who would serve poverty stricken neighborhoods much like they serve rural areas or Indian reservations. A similar request was recently made by city health officials in Newark.

The city department cited health planning Area 10 in the Tremont section of the South Bronx. It has a population of about 10,000 and not one practicing private physician except for a Medicaid clinic. A few blocks to the southeast in the Morrisania section, health planning Area 9B, within sight of where President Carter visited recently, has no physicians, either and only one Medicaid clinic.

The nearest hospital facilities are divisions operated by the Bronx-Lebanon Hospital Center.

In Brooklyn the department identified the 36th health planning area in the Bedford-Stuyvesant section as having only one physician for a population of 19,000, and in another health area in Brownsville, the 58th, there was only one physician for 22,000 people.

Vicious Circle Depicted

While the department pointed to taheso four neighborhoods, it said there were dozens more just like them. The one thing they all had in common, the department said, is that the worse their health become, the fewer physicians there are to deal with them.

As a consequence, many of the neighborhoods that have lost their physicians have seen their key health and mortality indexes — such as malnutrition, alcohol and a long list of diseases — soar, reaching what city officials described yesterday as crisis proportions.

Initially the city's study was in response to a request by the Biomedical Program of the City University, which is training physicians to serve in urban poverty areas. The university said it wanted the department to identify those areas of the city with the greatest need for physicians.

Toward that end, the department obtained a computer tape from the United States Department of Justice, which lists the office of every physician who must, under Federal law, register when applying for a drug-administering license.

In contrast with the four Bronx and Brooklyn neighborhoods, the department cited two health areas on Manhattan's East Side between Park Avenue and Fifth Avenues.

In one between 61st and 79th Streets, there are 974 physicians serving a population of 23,000, or 42.3 doctor for every 1,000 people.

Between 79th and 96th Streets there are 1,608 physicians for 32,000 people, or 34.1 per 1,000.

A Difference in Deaths

Other health index between the two East Side neighborhoods and the four in the Bronx and Brooklyn were equally lopsided.

For example, the infant mortality rate was 24.2 and 28.7 per 1,000 babies in the Bronx neighborhoods and 24.0 and 26 the two Brooklyn ones, compared with 11.1 and 16.9 in the two Manhattan areas.

In addition the department cited another key health indicator the percentage of children 5 years old or less living in a female-run household. In the Bronx the percentage was 48.7 and 46.8, in Brooklyn 47.4 and 33.6, and on the East Side 9.3 and 6.1.

According to Dr. Imperato, the health problems in poverty neighborhoods without physicians are particularly critical because families neglect their health needs rather than travel to a hospital by subway or bus and wait for hours for care. As a result, small medical problems became worse, eventually becoming critical and requiring far more costly inpatient hospitalization.

Furthermore, the Health Commissioner said, the city, which has 2.4 physicians for every 1,000 people, is victimized by Federal health-aid formulas that favor the city above the national physician average of 1.6.

While Manhattan, with all of its medical centers and physician offices, has 6.3 physicians for every 1,000 people, the rest of the city reflects that national average. But again the doctors are concentrated in more affluent sections leaving poor areas without any.

For example, 161 of the city's 340 designated health areas have less than one physician for every 1,000 residents, about a third below the national average.

Neighborhoods With Fewest Doctors

Source: New York City Department of Health

Chairman PERKINS. Thank you very much for your excellent testimony.

I want to state, in conclusion, that we are just delighted for you to come back and make an appearance before our committee on which you served so faithfully for several years. We are delighted to see you back here this morning on such an important mission.

Mr. Buchanan, any questions?

Mr. BUCHANAN. I, too, would like to welcome our colleague back to the committee. It seems to me that this legislation, to some extent, is related to the proposals which you and Governor Quie have made pertaining to gifted and talented individuals. Would you comment on that?

I feel very inclined to support your proposal. But it seems to me that this could tie to the gifted program, and maybe strengthen it.

Mrs. CHISHOLM. Let me say this. The particular focus of this legislation, of course, is geared specifically toward an area of vital need, a very specific area, and that is the area of biomedicine. The reason that we felt it was important to put this in a separate category is because of the dire necessity today, in this country, for minority students to move into an area that needs to be taken care of on a national basis, specifically health needs and health care.

Now with respect to the gifted students, we have asked that there be a set-aside for disadvantaged gifted students under ESEA, in order to help those students who have special educational needs as a result of their giftedness, economic background, and need for exposure.

We have been overlooking so many gifted children among the minorities and disadvantaged. Therefore, in my bill H.R. 9968 we have put in separate discretionary funds, to take care of the gifted children that we find in the disadvantaged and poor areas.

However, in this particular bill, we want to focus primarily on the area of biomedicine because we are convinced that unless we are able to develop cooperative academic working relationships, before people even think of entering a school of medicine, they will never be able to get there because of certain kinds of prerequisites that most students from disadvantaged areas are not prepared to get by virtue of the kind of guidance they get, and the other factors we know so well.

So, even though I am glad you raised the question about the gifted student, I wanted to zero in on the fact that we want to develop fully the talents and potential of students in biomedicine.

Mr. BUCHANAN. Do you definitely think that this has to be in Title I, or have you had the opportunity to research that?

Mrs. CHISHOLM. I really believe, since we are talking about compensatory educational benefits, and since the whole Basic Elementary Education Act is the largest federally assisted educational program geared toward the needs of disadvantaged students in this country, I feel that in the biomedical field, because of the fact that disadvantaged children do not enter this field for many, many reasons, that this should be a title—this could be an addition as the committee begins to review the entire ESEA legislation, which is up again now for reauthorization and reappropriation.

I would like to see that encompassed in that title.

Mr. BUCHANAN. One final question. Women are also very seriously underrepresented.

Mrs. CHISHOLM. Yes.

Mr. BUCHANAN. Should we try to do something about that in this proposal, or just be sure that we include females as well as males in the disadvantaged group?

Mrs. CHISHOLM. We are saying, disadvantaged. We are not limiting it to the urban disadvantaged or the rural disadvantaged. We are hoping that the entire piece of legislation will encompass both rural and urban disadvantaged. Under the disadvantaged we will have, because of the nature of the program that we are proposing, women as well as men actually applying. We are all part of the genus homosepians, some are men and some are women.

So we would hope that because of the nature of the legislation, we will have persons in both categories making applications.

Mr. BUCHANAN. Thank you very much.

Chairman PERKINS. Mr. Kildee?

Mr. KILDEE. A brief comment. Being a former high school teacher, I think your bill really hits the mark because I know a number of lost potential physicians who are working on some skilled or unskilled jobs in my district because they were failed in some way. I think that this bill addresses that.

I find people in their 30's who finally realize, "Well, I could have been this. But it is too late to start." Some have started, but for the most part they feel that it is too late to start. Some probably never realize they have lost, but some realize that.

I think that both will be helped by a bill like that. If we can have cognitive recognition in the biomedical field.

Mrs. CHISHOLM. Another point, because I know this might come up when you are discussing the bill, people say: "Well, why do you have to extend it for 5 years. Isn't that kind of unreasonable?"

We want to be able to have very serious planning. We also have to have—as Secretary Califano testified here last week, asking for multiyear periods in other ESEA programs so that people can engage in better planning.

It is very difficult to plan a meaningful and effective type of educational program if every year you have to worry whether or not you are going to be funded.

We want the contract to extend for 5 years, so that at the end of the first 5 years we can make a more relevant evaluation and assessment as to where the program is going, and where it has gone this far.

Chairman PERKINS. Thank you very much. You made a wonderful witness.

Dr. Therman Evans is here, and I am going to let the other panel come around at the same time: Dr. Arthur Hoyte, Dean of Community Medicine, Georgetown University; Dr. Vijaya Melnick, Professor, University of the District of Columbia; Dr. Alice Miller, Director, PREP Program, Barnard College; and Dr. Thomas Chalmers, Dean of the Mt. Sinai School of Medicine.

If you would come around, we are going to hear from you. We will hear from Dr. Evans first, and then if it is all right, we will continue to go around the table and hear the entire panel before we submit questions.

Go ahead, Dr. Evans.

STATEMENT OF DR. THERMAN EVANS, HEALTH DIRECTOR, OPERATION PUSH

Dr. EVANS. Thank you very much, Mr. Chairman. I appreciate the kind invitation from the committee to present testimony on this very important issue.

Since most minority students interested in and/or pursuing a biomedical career are economically disadvantaged, I will use the terms interchangeably.

I would like to give a little background and statistics, which I think help to put all of this in perspective, understanding that the relevant statistics for other minority groups are similar and worse, I will use blacks as the prototype.

Of the approximately 375,000 M.D.'s in this country, about 6,800 are black, and that is a percentage of 1.8 percent. There is one white M.D. for every 600 whites; and one black M.D. for every 5,000 blacks, in this nation.

There are approximately 150,000 dentists in this country out of which 3,000 are black, representing a ratio of one white dentist for every 1,900 whites; and one black dentist for every 9,000 blacks.

Black osteopaths are less than 2 percent of the total. Black veterinarians are 1.8 percent of the total. There is one white optometrist for every 10,000 whites; and one black optometrist for every 150,000 blacks. Blacks are nine-tenths of 1 percent of the optometrist of this nation. These are the people responsible for the eye care that we receive.

Black podiatrists comprise approximately 4 percent of the total. Black pharmacists comprise less than 4 percent of the total.

Data on the training institutions is not much better:

In 120 medical schools with approximately 60,000 medical students, the blacks are just over 6 percent of the total; approximately 1.5 percent are Chicano; approximately five-tenths of 1 percent are Native Americans; and approximately five-tenths of 1 percent are Puerto Rican.

In 58 dental schools with just over 20,000 students in this country, approximately 1,000 of those are black.

In 18 schools of veterinary medicine, black students comprise again 1.8 percent of the total body.

In the six schools of osteopathy, blacks comprise less than 2 percent.

In the 12 schools of optometry, the black student population is about 1 percent.

The scenario that makes H.R. 10736 important, I believe is as follows:

Blacks, Native Americans, Hispanics and Whites who are economically disadvantaged have been and continue to be significantly underrepresented in medical professions.

While most of the majority students come from families that earn $15,000 per year and above, a significant majority of the minority medical students emanate from families earning $10,000 per year and below.

The poor economic existence of most minorities in this country serves as another impediment to even considering the costly training of a biomedical career. This fact is supported by many studies, not the least of which is a 1964 NIH study of graduates from predominantly black colleges, which determined that cost of training was always at the top of the list of factors determining career choice.

Even though over the past 10 years the numbers of women and minorities interested in and pursuing biomedical careers have increased, the typical American student aspiring to be a physician basically has not changed.

According to a HEW publication entitled "Freshmen Interested in the Health Professions,"

> The typical aspiring physician in 1974 and in 1966 was an 18-year-old white man whose parents were affluent and well-educated, who felt little anxiety over his ability to pay for a college education, and who expected considerable financial support from his parents.
>
> He was highly self-confident, seeing himself as both intellectually and socially able; he had a strong achievement drive, giving high priority to becoming an authority in his field and winning recognition from his colleagues; and he emphasized altruistic over material values, especially helping others and making a contribution to society.
>
> He was more likely than were other freshmen to enroll at a private university, where the likelihood of his majoring in a field congruent with his career plans—e.g., premedicine—was higher. His degree and study field plans were consistent with his career choice, suggesting that he has a good chance of realizing his freshman goals.
>
> Blacks planning to become physicians were slightly older, somewhat less confident of their academic abilities, but even more sure of themselves socially than were their nonblack counterparts. They were substantially more likely to see themselves as understanding other people.
>
> Their median parental income was only about half that reported by nonblacks, however, and they were twice as likely to be worried about their ability to pay for college. Their life goals as well as their reasons for career choice show them to be more concerned with financial success and with status, though they, too, were highly altruistic and achievement oriented in their values.
>
> They tended to enroll in 4-year colleges, a category that includes most predominantly black institutions. Their institutional attendance patterns, degree aspirations, and financial uncertainties suggest that their career plans may be somewhat unrealistic, compared with those of white males.

H.R. 10736 proposes to establish projects designed to educate, motivate, and encourage secondary school students from economically disadvantaged backgrounds to pursue training at the undergraduate and graduate levels in the biomedical sciences. Operation PUSH enthusiastically supports this thrust. We support this bill for the following reasons:

First, opportunity. In recent years attention has been given to informing, reinforcing, motivating and recruiting into biomedical careers more students from economically disadvantaged backgrounds. There has been a change in the attention these students have received, but there has been little change in the attitudes of the medical educational establishment towards them.

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The increased number of minority students afforded an opportunity to pursue a biomedical career has directly correlated with the availability of increased Federal financial and programmatic initiatives. As these initiatives have declined, so have the admissions of minority students.

In addition to the financial aspects of opportunity, academics has been and continues to be important to the career chances and choices of economically disadvantaged students. Historically, medical professional schools have accepted and admitted students with academic credentials and potential requiring the least amount of development.

It is only recently, when confronted with students of varying academic, cultural, and socioeconomic backgrounds, that they have been faced with the challenge of teaching.

In the midst of waning Federal financial and programmatic initiatives, and in the absence of a serious commitment on the part of medical professional schools to enhance the opportunity of economically disadvantaged students, H.R. 10736 is needed.

It will provide a Federal financial and programmatic initiative designed to deal with one of the most commonly cited reasons for minority biomedical students' failure: weak secondary academic background.

Second, early intervention. H.R. 10736 speaks to the proposition that many years of discrimination and deprivation cannot be dealt with in a minute or in the twinkling of an eye. It will take serious, sensitive, and committed effort that must be started as early as possible.

My experience as a member and president of the board of education here in Washington, D.C., over the past 4 years has impressed me with the significance of beginning this effort at the junior high school level.

Our elementary school children have a fascination for, interest in, and aptitude in science. Yet upon entrance into high school a new dynamic has taken place that results in students' avoidance of the natural sciences because of this perceived degree of difficulty.

Somewhere between elementary and high school the widespread fascination with an interest in the natural sciences is dampened. Though ideally intervention should begin at the K and pre-K levels, starting in the ninth grade represents progress.

Third, total involvement. The entire community has a vested interest in the educational success of our youth. H.R. 10736 focuses on the importance of the environment in the educational process of economically disadvantaged students. Our experience has been that where there is an emotionally and academically supportive environment with high expectations and realistic and sensitive role models, the young people do well, low socioeconomic status notwithstanding.

Mr. Chairman, with that I will conclude my remarks with a final suggestion that we do support this effort. We feel that it is at least a beginning step in the right direction.

Chairman PERKINS. Did you conclude?

Dr. EVANS. Yes.

Chairman PERKINS. This was a very good statement.

The next witness will be Dr. Arthur Hoyte, dean of community medicine, Georgetown University. You go ahead, Dr. Hoyte.

STATEMENT OF ARTHUR HOYTE, DEAN, COMMUNITY MEDICINE, GEORGETOWN UNIVERSITY

Dr. HOYTE. Thank you very much, Mr. Chairman. I would like you and the committee to accept my appreciation for affording me this opportunity to speak on behalf of H.R. 10736.

I would like to beg your indulgence in offering this testimony from the perspective of a black, board certified obstetrician and gynecologist who has had an in-depth exposure to OEO programs, prepaid group practice, organized medical education and to a city/State which has more medical, dental and nursing school positions, more practicing physicians and dentists, more black medical providers, and in general more health resources per capita than most comparable geopolitical units. Yet this same city/State has health statistics which are among the worst in the Nation, when compared to cities or States of comparable size. The city/State of which I speak is Washington, D.C.

I start with the above observations which appear to be a paradox in that morbidity and mortality rates are high in face of plentiful medical resources, because, in my opinion, it is pertinent to the strategic intent of H.R. 10736.

My assumptions regarding the intent of the legislation can be traced to my good fortune of having had the opportunity to work closely with Congressman Claude Pepper and Ms. Mimi Lasser of his staff, over the past 2 years, as they spearheaded the writing of this legislation—H.R. 10736.

During the period I have known Congressman Pepper, he has often expressed concern about the high morbidity and mortality rates of people living in medically underserved areas. He expressed his interest in developing and implementing a strategy which would not only result in reducing the suffering and pain of those living in poverty, but would also result in the reduction of premature deaths and in the improvement of the overall health status of the disadvantaged.

Our research, coupled with our experiences, led us to the conclusion that a workable strategy had to accomplish the following:

Educate and train a large number of health professionals who would be most likely to practice in medically underserved areas. It is very clear from studies done by the Government itself that there is a very select group of individuals who help professional schools, and they happen to not be minorities; not be people from low-income categories; not be people whose parents have not gone beyond the high school level in education. It seems to me that the studies end up saying that the people most likely to go into medically underserved areas are minorities, individuals from low-income families, and individuals who come from underserved areas. I think that this is very significant.

Make safer living and working conditions and good nutrition available to those usually destined to a life of poverty; and

Most importantly, motivate individuals from disadvantaged background, to adopt safer/healthier personal behavior patterns.

H.R. 10736, if implemented in the spirit of the intent of those who drafted and introduced the legislation, Congressman Claude Pepper, Congresswoman Chisholm and Congressman Roybal, has the great potential of realizing the goals as stated above.

My experience as a physician and educator has convinced me it is difficult, if not impossible, to be physically, mentally and socially healthy in the United States, unless one is able to live and work in a safe environment, have access to nutritious foods and is motivated to adopt health promoting personal behavior patterns.

Yet all this is now, and will continue to be relatively inaccessible to the youths who are living in poverty, until they are armed with literacy, communication and test-taking skills which make them competitive for higher educational opportunities and skilled jobs.

H.R. 10736 has the potential of enticing—I use the word "enticing" purposely—educational institutions which are primarily responsible for preparing workers for entry into the $140 billion health industry, to take responsibility for:

Designing and implementing a longitudinally structured program which will nurture literacy, communication and test-taking skills of disadvantaged high school students and raise them to levels which will make them competitive for access to postsecondary educational and/or employment opportunities in the biomedical sciences;

Utilizing their unique and plentiful resources (manpower, labs, hospitals, special equipment, et cetera) in a manner that motivates and directs disadvantaged youths towards careers in the biomedical sciences while strengthening skills and self-concept.

In my opinion this potential of H.R. 10736 can only be fully realized if:

The sponsoring institutions of higher education are held accountable to do what they say they intend to do;

Large numbers, from 500 to 1,000, of students from disadvantaged backgrounds are active participants in the project over a 3- to 5-year period.

Parents and teachers are integrally involved in the project;

The public, private and voluntary resources within a community can be mobilized, focused on the target population and on the main objectives, and subsequently orchestrated in a manner which offers the participants a multiplicity of reinforcing experiences;

Communication and support linkages between the sponsoring institution of higher education and the public school systems are formal and well delineated; and finally

The guidelines and regulations are flexible enough to allow the educationally and culturally needy to participate in the program, even if not deemed economically needy.

What follows are additional comments on these points that I have just made.

No. 1. I would like to talk about accountability. I would like to recommend that if H.R. 10736 is passed and funds are subsequently appropriated, that most, if not all, such funds be awarded on the basis of performance contracts.

There is an excellent precedent for this embodied in the legislation authorizing the Area Health Education Center Program (Sec. 781,

title VIII Special Projects, Public Law 94-484). Congress in its wisdom legislated that medical schools would have to serve as prime contractors for the planning, development and implementation of Area Health Education Centers. This approach has led to a highly visible, and successful program which yielded excellent results while maximizing the impact of Federal dollars.

I am presently involved in the planning of an urban AHEC and can attest to the fact that all the academic institutions involved are quite sensitive to the fact they have received funds under a contract and not a grant, and that they are virtually assured of several years of funding support only if they perform well during each year of the contract.

The next point that I would like to discuss is the involvement of large numbers of students in each project over a period of several years.

It is clear that the sponsors of H.R. 10736 intend that a minimum of 50 percent of all student participants have their motivation, self-concept, literacy, communication, and test-taking skills nurtured and cultivated for a minimum of 24 months.

To my mind this process of intense nurturing and cultivation of skills and attitudes will be the factor most significant in determining which of the participants will obtain higher educational and/or employment opportunities in the future.

An added significance of the requirement to enroll and retain large numbers of students is that it serves as an incentive for the institution of higher education sponsoring the project to parlay Federal seed dollars by mobilizing community-wide resources—money, manpower, programs, and so forth—and concentrating them on the same main objectives.

Strengthening literacy, communication and test-taking skills; strengthening self-concept; stimulating a goal and achievement orientation; and stimulating positive personal behavior change.

I would also like to get parents involved. My experience in running programs that now deal with 300 students at Georgetown, the students that end up getting into the medical schools and are successful, and do come from economically and/or educationally disadvantaged backgrounds, almost always have some parental influence that has pushed them and supported them. Telling them, after school, "You must do your homework." "You must go to school today."

I think that it is very important to get the parents involved.

Again, I would reiterate the mobilization, focusing, and orchestration of community-wide public, private and voluntary resources. President Carter in his January 1978 state of the Union message underscored the need for cooperation between the public, private, and voluntary sectors, in addressing the needs of the Nation.

It is obvious that a sponsoring institution of higher education could not offer the numerous exposures and experiences the authors of this legislation had in mind to hundreds of students from disadvantaged backgrounds without assistance and support from other resources in the community.

I would like to move from page 7 of my statement to page 8, and talk about the development of communication and support linkages

between institutions of higher education and the public school systems.

Section 1004 of H.R. 10736 states: "Each project funded shall be carried out in cooperation with a public secondary school system, or with a combination of such systems."

I would like to suggest that it is critical to have a communication linkage that the wording read, in section 1004, page 6, lines 22 and 23: "be carried out under a formal agreement with a public secondary school system."

Finally, I would like to speak to the need for more flexible guidelines and regulations. Many, if not most of the programs funded by the Office of Education are narrowly restrictive in that eligibility is dependent on the family size and income.

Upward bound program is an example of such a program. In order to be eligible to participate in the upward bound program students must fit into family size and income categories. I have a table on page 9, and for example in 1978–79, the guidelines say that a family of four can only earn $5,820 if that student is to participate.

I have been told by upward bound recruiters that they will often go to an inner-city public school and have to turn away scores of interested students because they do not meet the family and income eligibility test.

As college performance and scores on standardized tests, such as the Scholastic Aptitude Test (SAT), the Medical College Admissions Test (MCAT), et cetera, attest the majority of students from large metropolitan as well as rural schools could benefit from academic enrichment support regardless of their family size or income.

It has long been my contention that a sizable number of the better prepared students who graduated from inner-city high schools with an interest in pursuing a career in medicine never obtain acceptance to medical school. They become victims of a very subtle, but malicious process. A typical scenario follows:

A student in the top 10 percent of his class graduates from an inner-city high school and is recruited to a highly selective premedical program at a predominantly white college.

To start with, the student is partially overwhelmed by what he or she considers an unfriendly, if not hostile environment. He is overwhelmed by a curriculum which calls for his taking chemistry, biology, and mathematics in competition with students who have taken advanced science courses in high school, or have attended private high schools. Not surprisingly, they end up on the lower end of the curve. Many of these students are subsequently counseled out of the premedical program, while others drop out because of discouragement.

The few who continue often graduate with such low grade point averages that they are rejected by medical schools. Ironically, the student who graduated 50th or 100th from the same high school class, and subsequently attended a less competitive undergraduate school, obtains an acceptance to a medical school.

The Georgetown Medical Center Office of Programs for Student Development and Community Affairs has come in contact with many of these casualties over the past 3 years. With assistance from this

office, a majority of them eventually obtain admission to medical school or dental school, and do well in spite of the academic blemishes on their undergraduate school record.

I am familiar with students who end up five or six at the top of the class, and do not get the opportunity, they are almost penalized for the fact that they have done well, and they are often not eligible for a program, such as the one you have mentioned, Congressman Buchanan, or such as the upward bound program.

Finally, in closing, I would like to make one other point. I respectfully suggest that the phrase "students from low-economic backgrounds" be deleted, and that a more encompassing phrase, such as "students from disadvantaged backgrounds," which would include not only the economicaly disadvantaged, but also the educationally and culturally disadvantaged.

There is another technical point in the bill that disturbs me a little, and that is at section 1003(b), lines 22 through 25, page 5, and also line 1 on page 6, which reads as follows:

> The Commissioner, in his selection among applications meeting the requirements for approval under Section 1005, shall (1) give priority to each such qualified application that proposes the offering of a program not previously offered.

In my opinion these lines could be interpreted in a manner that could exclude institutions which may have the greatest potential of implementing a successful model. It is possible that an institution which has previously offered a program, even without support of Federal dollars, could be penalized. I feel that if funding is based on competitive performance contracts, all institutions should be encouraged to compete.

Thank you very much for this opportunity.

Mr. KILDEE. Thank you very much, Dr. Hoyte.

I am not familiar with your qualities as a physician, but it is very clear that you are an excellent educator. We appreciate your testimony.

[The complete statement of Dr. Hoyte follows:]

PREPARED TESTIMONY BY ARTHUR HOYTE, M.D., DIRECTOR, OFFICE OF PROGRAMS FOR STUDENT DEVELOPMENT AND COMMUNITY AFFAIRS, COMMUNITY MEDICINE, GEORGETOWN UNIVERSITY

Mr. Chairman, and Members of the Subcommittee on Elementary, Secondary and Vocational Education

Please accept my appreciation for offering me this opportunity to testify in behalf of H.R. 10736.

I beg the indulgence of the Subcommittee in offering this testimony from the perspective of a black, Board certified Obstetrician and Gynecologist who has had an indepth exposure to O.E.O. programs, prepaid group practice, organized medical education and to a City/State which has more medical, dental and nursing school positions, more practicing physicians and dentists, more black medical providers, and in general, more health resources per capita than most comparable geopolitical units; yet this same City/State has health statistics which are among the worst in the Nation when compared to cities or states of comparable size. The City/State of which I speak is Washington, D.C.

I start with the above observations which appear to be a paradox in that moribidity and mortality rates are high in face of plentiful medical resources, because, in my opinion, it is pertinent to the strategic intent of H.R. 10736.

My assumptions regarding the intent of the legislation can be traced to my good fortune of having had the opportunity to work closely with Congressman Claude Pepper and Ms. Mimi Lasser of his staff, over the past two years, as they spearheaded the writing of this legislation (H.R. 10736).

During the period I have known Congressman Pepper, he has often expressed concern about the high morbidity and mortality rates of people living in medically underserved areas. He expressed his interest in developing and implementing a strategy which would not only result in reducing the suffering and pain of those living in poverty, but would also result in the reduction of premature deaths and in the improvement of the overall health status of the disadvantaged.

Our research, coupled with our experiences, led us to the conclusion that a workable strategy had to accomplish the following:

- educate and train a large number of health professionals who would be most likely to practice in medically underserved areas;
- make safer living and working environments and good nutrition available to those usually destined to a life of poverty; and
- most importantly, motivate individuals from disadvantaged backgrounds to adopt safer/healthier personal behavior patterns.

H.R. 10736, if implemented in the spirit of the intent of those who drafted and introduced the legislation, Congressman Claude Pepper, Congresswoman Shirley Chisholm and Congressman Edward Roybal, has the great potential of realizing the goals as stated above.

My experiences as a physician and educator have convinced me it is difficult, if not impossible to be physically, mentally and socially healthy in the United States, unless one is able

to live and work in a safe environment, has access to nutritious foods and is motivated to adopt health promoting personal behavior patterns. Yet all this is now, and will continue to be relatively inaccessible to the youths who are living in poverty, until they are armed with literacy, communication and test-taking skills which make them competitive for higher educational opportunities and skilled jobs.

H.R. 10736 has the potential of enticing educational institutions which are primarily responsible for preparing workers for entry into the $140 billion dollar health industry to take responsibility for:

- designing and implementing a longitudinally structured program which will nurture literacy, communication and test-taking skills of disadvantaged high school students and raise them to levels which will make them competitive for access to post-secondary educational and/or employment opportunities in the biomedical sciences;
- utilizing their unique and plentiful resources (manpower, labs, hospitals, special equipment, etc.,) in a manner that motivates and directs disadvantaged youths towards careers in the biomedical sciences while strengthening skills and self-concept.

In my opinion this potential of H.R. 10736 can only be fully realized if:

- the sponsoring institutions of higher education are held accountable to do what they say they intend to do;

- large numbers (500 - 1000) of students from disadvantaged backgrounds are active participants in the project over a 3 - 5 year period;
- parents and teachers are integrally involved in the project;
- the public, private and voluntary resources within a community can be mobilized, focused on the target population and on the main objectives, and subsequently orchestrated in a manner which offers the participants a multiplicity of reinforcing experiences;
- communication and support linkages between the sponsoring institution of higher education and the public school system(s) are formal and well delineated; and finally
- the guidelines and regulations are flexible enough to allow the educationally and culturally needy to participate in the program even if not deemed economically needy.

What follows are additional comments on these points.

Accountability:

I would like to recommend that if H.R. 10736 is passed and funds are subsequently appropriated, that most, if not all, such funds be awarded on the basis of performance contracts. There is an excellent precedent for this embodied in the legislation authorizing the Area Health Education Center Program (AHEC) (Sec. 781, Title VIII Special Projects P.L. 94-484). Congress in its wisdom legislated that medical schools would have to serve as prime contractors for the planning, development and implementation of Area Health Education Centers (AHECs). This approach has led to a highly visible, and successful program which yielded excellent results while maximizing the impact of federal dollars.

I am presently involved in the planning of an Urban AHEC and can attest to the fact that all the academic institutions involved are quite sensitive to the fact they have received funds under a contract and not a grant; and that they are virtually assured of several years of funding support only if they perform well during each year of the contract.

Involvement of Large Numbers of Students in Each Project Over a Period of Several Years:

It is clear that the sponsors of H.R. 10736 intend that a minimum of 50% of all student participants have their motivation, self-concept, literacy, communication and test-taking skills nurtured and cultivated for a minimum of 24 months. To my mind this process of "intense" nurturing and cultivation of skills and attitudes will be the factor most significant in determining which of the participants will obtain higher educational and/or employment opportunities in the future.

An added significance of the requirement to enroll and retain large numbers of students is that it serves as an incentive for the institution of higher education sponsoring the project to parlay federal "seed" dollars by mobilizing community wide resources (money, manpower, programs, etc.), and concentrating them on the same main objectives:

- strengthening literacy, communication, and test-taking skills;
- strengthening self-concept;
- stimulating a goal and achievement orientation; and
- stimulating positive personal behavior change.

Parent and Teacher Involvement:

If H.R. 10736 is passed, the regulations reflecting the intent of the Congress should be specific and "demand" that the institution of higher education sponsoring a project, work hard to actively involve parents and teachers in the project. The importance of this cannot be emphasized enough. It is obvious that no circumstance can generate better results in child development and achievement than home, school and extra-mural environments which mutually support and reinforce one another.

The Mobilization, Focusing and Orchestration of Community Wide Public, Private and Voluntary Resources:

President Carter in his January 1978 State of the Union Message underscored the need for cooperation between the public, private and voluntary sectors, in addressing the needs of the Nation. It is obvious that a sponsoring institution of higher education could not offer the numerous exposures and experiences the authors of H.R. 10736 had in mind to hundreds of students from disadvantaged backgrounds without assistance and support from other resources in the community.

Most communities, particularly in metropolitan areas, have plentiful educational, health and biomedically related resources that are potentially accessible, even to the disadvantaged. H.R. 10736 should be more specific and forceful in calling for a grantee or contractor to mobilize and use these existing community resources. The legislation should specifically state that funding priorities will seriously consider a project's ability to mobilize the resources from the public, private and voluntary sectors of a community, and focus them on the target student population so that each participating student is offered many positive reinforcing experiences over the 5 year period of the award.

Implemented properly, such a strategy could:

- generate a vast number of experiences and exposures so that each participant, in spite of the size of the participant pool, would be involved in biomedical educational career experiences in school, after school, week-end and during the summer. Skills, motivation and self-concept would be maximally nurtured and strengthened;
- involve parents and teachers, through the child, by offering rewards and recognition to their children for involvement and satisfactory performance. Parental and teacher involvement could also be generated by offering them special training opportunities and special health related services because of their child/student involvement;
- enhance access to post secondary educational/training and employment opportunities in the health field by offering successful participants admission preference to educational

and employment opportunities in the public and private groups which co-sponsor the projects.

Development of Communication and Support Linkages Between Institutions of Higher Education and the Public School System(s):

Section 1004 of HR 10736 states "Each project funded shall (2)(A) be carried out in cooperation with a public secondary school system, or with a combination of such systems,...". I believe that communication and cooperation between the sponsoring institution and the public school system(s) will be critical to the success of the program, particularly in light of the anticipated number of student, teacher and counselor participants. In that a primary role of the project is to reinforce the math and science curriculi and the objectives of the school system(s) it is imperative that ongoing dialogue take place between project personnel and the teachers, counselors and administrators of the system(s). Therefore, I recommend that the wording of Section 1004, page 6, lines 22-23 be modified to read "be carried out under a formal agreement with a public secondary school system...".

The Need for Flexible Guidelines and Regulations:

Many, if not most, of the programs funded by the Office of Education are narrowly restrictive in that eligibility is dependent on family size and income. The Upward Bound Program is an example of such a program. In order to be eligible to participate in the Upward Bound Program students must fit into family size and income

categories listed in Table A.

TABLE A
OFFICE OF EDUCATION
FAMILY SIZE AND INCOME GUIDELINES
(1978 - 1979)

Family of one	$2,960
Family of two	$3,830
Family of three	$4,540
Family of four	$5,820
Family of five	$6,870
Family of six	$7,740
Family of seven and above	add $960 for each additional member

I have been told by Upward Bound recruiters that they will often go to an inner city public school and have to turn away scores of interested students because they do not meet the family and income eligibility criteria.

As college performance and scores on standardized tests, such as the Scholastic Aptitude Test (SAT), the Medical College Admissions Test (MCAT), etc., attest the majority of students from large metropolitan as well as rural schools could benefit from academic enrichment support regardless of their family size or income.

It has long been my contention that a sizeable number of the "better prepared" students who graduate from inner city high schools with an interest in pursuing a career in medicine never obtain acceptance to medical school. They become victims of a very subtle, but malicious process. A typical scenario follows:

A student in the top 10% of his class graduates from an inner city high school and is recruited to a highly selective pre-medical program at a predominately white college. To start, the student is partially overwhelmed by what he/she considers an unfriendly, if not hostile, environment. He is overwhelmed by a curriculum which calls for his taking Chemistry, Biology, and Mathematics in competition with students who have taken advanced science courses in high school and/or attended private high schools. Not surprisingly, they end up on the lower end of "the curve". Many of the students are subsequently counseled out of the pre-medical program while others drop out because of discouragement. The few who continue often graduate with such low grade point averages that they are rejected by medical schools. Ironically, the student who graduated 50th or 100th from the same high school class and subsequently attended a less competitive undergraduate school obtains an acceptance to a medical school. The Georgetown Medical Center Office of Programs for Student Development and Community Affairs has come in contact with many of these 'casualties' over the past three years. With assistance from this Office a majority of them eventually obtain admission to medical school and do well in spite of the academic blemishes on their undergraduate school record. Again it is my impression that the blemishes mainly reflect their performance in relation to a very highly selected group who in a relative sense are better prepared and take up the higher end of the grading curve. It is doubtful that placement on the down side of the curve reflects absolute knowledge and/or understanding of a course.

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I have attached copies of two (2) documents (A and B) which reflect the type of circumstance I feel not only undermines the self concept of the student but penalizes him/her for "outstanding achievement." Confidentiality demands that the names of the students and high schools be deleted from the documents.

It is my hope that the Subcommittee will be considerate of the many students who could be categorized as educationally deprived but not economically disadvantaged as defined by criteria presently utilized by the Office of Education.

I respectfully recommend that the phrase "students from an economically disadvantaged background" be deleted from HR10736 and be replaced by "students from disadvantaged backgrounds."

I recommend that Section 1002 (7) on page four of the bill, lines four (4) to nine (9), should be struck and a new definition be inserted in lieu thereof to read;

> "The term 'Students from disadvantaged backgrounds' means those individuals who are enrolled in the ninth, tenth, eleventh or twelfth grade of a public secondary school located in areas in which the federal government designates as inner-city or medically underserved urban and rural areas. Included in this group would be students identified as economically, culturally or educationally deprived."

There is one final point I would like the Subcommittee to consider prior to ending my presentation. Section 1003 (b) of HR10736, (lines 22 through 25, page 5 through line 1, on page 6) reads as follows:

"The Commissioner, in his selection among applications meeting the requirements for approval under section 1005, shall (1) give priority to each such qualified application that proposes the offering of a program not previously offered...".

In my opinion these lines could be interpreted in a manner that could exclude institutions which may have the greatest potential of implementing a successful model. It's possible that an institution which has "previously offered" a program even without support of federal dollars could be penalized. I feel that if funding is based on competitive performance contracts all institutions should be encouraged to compete.

In closing, I would again like to thank the Subcommittee for the opportunity to present testimony in behalf of HR10736 and respectfully request that the Chairman allow the record to include the following for the benefit of many, like myself, who are relatively naive about the legislative process.

The principles embodied in HR10736 were articulated to me by Congressman Claude Pepper (Democrat-Florida) over two years ago. During the interim he has committed numerous hours of his time and the time of his staff to the many tasks related to the drafting of legislation. Most of the research and writing was performed by Ms. Mimi Lasser, recently retired from the staff of Congressman Pepper.

I believe it is important for the disadvantaged throughout the nation to fully appreciate the fact that Congressman Pepper continued to make this legislation a priority just before, and immediately following successful cardiac surgery. Ms. Lasser worked on the legislation many evenings,

holidays and through the several weeks she was convalescing from a broken wrist.

In behalf of the many who may benefit from the legislation, I commend Congressman Pepper and Ms. Mimi Lasser for the time and effort they dedicated in hopes that HR10736 will become law.

ATTACHMENT A

My name is I graduated from High School, here in Washington, D. C. I was in the top fifth of a class of 830 students. When I was in junior high school I worked as a volunteer at D. C. General Hospital in the pediatric ward one day a week after school. As a result of that experience, I became interested in becoming a physician. With this career in mind, I took as many science courses as possible in high school and worked every summer in research laboratories. Determined, and thinking myself well prepared, I accepted an offer to attend Boston University.

My first year at Boston University was frustrating and disappointing. Although I had taken the most challenging courses my high school offered and had consistently performed at an A/B level, I had great difficulty with my first year's science courses at Boston University. It was soon apparent that my public school experience had not adequately taught me how to analyze and integrate science subject matter, nor prepared me for the objective testing methods used at Boston University.

To compensate for my lack of preparation, I spent many hours participating in reinforcement programs, remedial courses, and seeking tutorial help. Obviously, the extra time needed to "catch-up" compromised the time needed to master new class material. I studied 40 hours a week, determined to overcome and close the educational gap that has haunted me through my years at Boston University. Although I improved my overall average from 1.85 in my freshman year to a 2.09 in my senior year, My efforts expended in studying longer hours than my peers only resulted in average grades on my exams. My peers studied less because their high school preparation was more rigorous and college oriented than mine; many admitted that they had taken many of the science courses in high school or took them in summer school at their home town college. I was appalled at the fact that I was struggling and feeling stupid, that I was not doing as well in the courses the first time around, whereas they were doing excellently the second time around.

In spite of my being humiliated and discouraged for sustained efforts, I still have interests in a medical career. I realize that pursuing this goal will not be easy, and the bad experiences that I encountered while attending Boston University could have been prevented if I had had adequate preparations.

ATTACHMENT B

My name is I attended Public Schools from kindergarten through the twelfth grade. Before my high school years, I desired to become a doctor, and consequently, I volunteered my services to hospitals as a nurse's aide and laboratory assistant. I also participated in numerous science fairs, acheiving awards and honors on my projects from governmental agencies. I graduate from High School in 1973 and ranked fourth in a class of over 800 students. While there, I was enrolled as a special student at under the laboratory techniques program which was geared toward students desiring to enter the health professions. To assure my readiness for college, I took additional science and math courses before the regular school hours began.

In 1973, I was offered admissions to 8 top ranked colleges and universities in the United States. I matriculated to Brown University, taking the heavy science load needed as a premedical student. I graduated from Brown after four years but not without a struggle. I came to Brown full of confidence, aspirations, and optimism, and ready for a rigorous four years of study. In the middle of my first semester, I had lost all self assurance. I had studied longer and harder than I ever had to study before (which was to be expected). However, I could not achieve the standards of Brown nor the standards I had set for myself. For the first time I understood what was meant by the old saying of needing 25 hours in a 24 hour day to complete my never ending study schedule. I was simply not adequately prepared to compete with my classmates who had come from the elite and top-ranked high schools from all over the United States. I sought outside help from tutors and spent many hours talking to professors, but this was still not enough. Many of the courses which I took at Brown were a repeat performance for my classmates; for me, it was all new material and strange words.

Not only did I have to cope with my school work, but I had to work to help support myself while attending Brown. I also felt the need to continue with community services because there were too many less fortunate than I. I participated in several volunteer programs, including the Brown-Foxpoint Day Care Center, Bannister Home for the Elderly, and the Big Sister Program.

Although I graduate from Brown University this spring with a 3.0 average, I have not yet met the pre-medical requirements. The pressure to perform acceptably, support myself, and retain a minimum commitment to the community kept me from registering for pre-medical courses I much needed or sometimes dropping out of them. I have accordingly delayed my plans for

applying to medical school because I must take additional courses in various science areas.

I have indebted myself thus far, and I am willing to go further in debt to pursue my educational goals. But I am humiliated, frustrated and disappointed because opportunities are no longer available. Federal aid is no longer available, and consequently, many agencies and schools are turning their backs on helping students who are trying to help themselves. I was always told that one must get a good education, study hard, and work up to one's own potential. I have worked hard toward my chosen career; and I am now more than half way there, but I cannot find the support I need in continuing my learning experience in schools or in related occupations. Has someone lied to me?

Sincere

APPENDIX

FACTS AND OPINIONS SUBMITTED IN SUPPORT OF THE NEED FOR H.R. 10736

I. In spite of sizeable increases in the manpower pool since 1970, many urban and rural areas continue to be medically underserved. Obviously there are many reasons for this circumstance, but paramount among them is the fact that those individuals most likely to voluntarily practice in urban or rural medically underserved areas, minorities, the poor and individuals educated in rural settings are the least likely to obtain admission to schools which train health professionals.

Evidence to support this contention can be found in the following conclusions of the Executive Summary of a major study financed by HEW, Medical Student Indebtedness and Career Plans, 1974 - 1975 (DHEW Publication No. (HRA) 77-21):

(a) Students anticipating the largest amount of debt prior to graduation from medical school tend to be women, minority group members, married with children, from small towns or rural areas and from lower-income families.

(b) Similarly, students interested in primary care and/or underserved area careers also tend to be women, married with children, from small towns or rural areas and from lower-income backgrounds. Minority group members showed higher than average proportional interest in shortage area service but a slightly larger proportion of whites than blacks expressed an interest in primary care.

The final summarizing paragraph of the Executive Summary states:

" In view of all the above, it appears that career choice is probably more closely related to a student's general background than to the degree of indebtedness he or she anticipates at the time of graduation from medical school. In general, individuals most likely to be interested in primary care and/or shortage area careers tend to be women, minority group members, from small towns or rural areas, and from lower-income family backgrounds."

The significance and tragedy of the findings of the study referred to above is underscored by a second study financed by HEW, Descriptive Study of Enrolled Medical Students 1975-1976 (DHEW Publication No. (HRA) 77-78).

This second study clearly showed that very few students are admitted to medical school if:

- they are minorities; (see page c)
- their parental income is less than $10,000; (see page d)
- they were not from one of 7 states; (see page e)
- their father was not a professional, owner, manager or administrator; (see page f)
- their father has not completed high school; (see page g)
- their mothers had not completed high school; (see page h)

- If they are minorities, (See table 1 below)

No. 1

Distribution of Medical Students by Racial/Ethnic Self-Description, Sex, and Control of Medical School, 1975-76

RACIAL/ETHNIC SELF-DESCRIPTION	ALL SCHOOLS				PUBLIC SCHOOLS				PRIVATE SCHOOLS				DIFFERENCE BETWE PUBLIC AND PRIVA	
	Men	Women	Total*	Percent of Total+	Men	Women	Total*	Percent of Total+	Men	Women	Total*	Percent of Total+	Number (Col. 8 less Col. 12)	Perce (Col. 9 Col. 1
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
TOTAL	44,435	11,446	55,983	100.0	25,730	6,169	31,960	100.0	18,705	5,277	24,023	100.0	7,937	33.0
Black	2,450	1,189	3,640	7.2	1,059	508	1,567	5.5	1,391	681	2,073	9.5	-506	-24.4
Indian	163	58	221	0.4	114	60	158	0.6	45	18	63	0.3	95	150.8
White/Caucasian	34,248	8,366	42,627	84.6	20,015	4,535	24,553	85.7	14,233	3,831	18,074	83.2	6,479	35.8
Oriental	752	258	1,011	2.0	436	140	576	2.0	316	118	435	2.0	141	32.4
Hispanic†	1,149	342	1,491	3.0	825	251	1,077	3.8	323	91	414	1.9	663	160.1
Other	1,054	335	1,392	2.8	544	169	717	2.5	506	166	675	3.1	42	6.2
No Response	4,619	920	5,601	--	2,718	526	3,312	--	1,891	394	2,289	--	1,023	--

* Total includes 100 students not identified by gender: 61 at public schools and 39 at private schools.

+ "No Responses" were excluded from total in computing percentages.

† Includes Mexican Americans, Puerto Ricans (Mainland and Island), and Cubans. These categories had to be combined since some of them were not i ed on HEAF Questionnaires in earlier test years.

Although more minority students were enrolled in publicly controlled schools (4,095) than in privately controlled schools (3,660), the proportion of minority students was lower at public schools (Table 11). Fourteen percent of all public school students, in contrast to 17 percent of all private school students, described themselves as other than Caucasian. The difference of 506 (24 percent) more black students at private schools than at public schools is mainly due to the private classification of the two traditionally black schools, Howard and Meharry. Of the other minorities, the larger numbers of Indian, Oriental, Hispanic, and "Other" students were enrolled at public medical schools. The exception were "Other" minority women with nearly parallel totals at both public (169) and private (166) schools.

- their parental income is less than $10,000. (See Table 2 below)

No. 2

Distribution of medical students by Parental Income level, Sex, and Medical School Class Level, 1975-76

PARENTAL INCOME LEVEL*	ALL CLASSES			CLASS LEVEL								
				First Year			Intermediate Years			Final Year		
	Men Women	Totals	Percent of Totals	Men Women	Totals	Percent of Totals	Men Women	Totals	Percent of Totals	Men Women	Totals	Percent of Totals
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
TOTALS	44,535 11,488	55,983	100.0	11,511 3,808	15,318	100.0	21,819 5,879	27,718	100.0	11,151 2,114	13,147	100.0
Under $5,000	2,215 538	2,753	4.9	551 107	686	4.5	1,145 307	1,507	5.4	427 154	781	5.9
$5,000-$9,999	5,933 1,569	8,514	15.1	1,654 347	1,992	9.4	3,526 778	3,234	11.6	1,481 317	1,800	13
$10,000-$14,999	9,117 2,230	11,468	21.4	2,324 519	3,141	21.4	4,513 1,141	5,661	21.4	2,230 571	2,656	21
$15,000-$19,999	6,329 1,669	7,998	16.3	1,845 415	2,369	15.3	3,027 761	3,838	15.2	1,454 238	1,732	15
$20,000 or More	15,324 4,351	20,120	41.1	5,455 1,417	7,171	48.4	7,458 2,056	9,474	40.6	2,011 538	3,511	27
No Response	1,617 1,334	2,951	—	682 549	957	—	1,571 975	2,604	—	348 400	2,867	—

* Gross combined parental income reflects information for the year before the MCAT was taken: 1970 for most centers and 1973 for most freshmen. Numbers were not adjusted for inflation.

† Totals include 109 students not classified by gender.

‡ "No Responses" were excluded from total in computing percentages.

§ Includes 35 but five final year students (26 men and 9 women) and 25 but many intermediate-year students (16 men and 9 women).

Parental Income

The distribution of all students by parental income at the time of taking the MCAT shows that the largest group (41 percent) indicated income above $20,000 (Table 16). Nearly three-fifths (59 percent) of all medical students came from family backgrounds below $20,000, with 6 percent in the "Under $5,000" category. The estimated income median was $17,270, which reflects dollar values

- if they were not from one of 7 states (see Table 3 below)

No. 3

Seven states contributed 47 percent of the nation's 55,983 medical students enrolled in 1975-76. The largest state totals were recorded for New York, 7,268; California, 4,309; Pennsylvania, 3,804; and Illinois, 3,261. The other 3 states (Texas, Michigan, and Ohio) furnished more than 2,000 each. Eleven states supplied from 1,892 (New Jersey) to 1,060 (Wisconsin); 15 states and Puerto Rico from 500 (Puerto Rico) to 960 (Tennessee); and 17 states plus the District of Columbia from 40 (Alaska) to 414 (Utah).

- their father was not a professional, owner, manager or administrator (see Table 4 below)

No. 4

Distribution of Medical Students by Father's Occupation, Sex, and Medical School Class Level, 1975-76

FATHER'S OCCUPATION	ALL CLASSES			CLASS LEVEL: First Year			Intermediate Years			Final Year		
	Men Women	Total*	Percent of Total+	Men Women	Total*	Percent of Total+	Men Women	Total	Percent of Total+	Men Women	Total	Percent of Total+
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
TOTAL§	44,435 11,648	55,983	100.0	11,611 3,026	15,318	100.0	21,619 5,879	27,318	100.0	11,183 2,164	13,347	100.0
Physician	5,683 1,355	7,041	13.7	1,533 417	2,029	13.7	2,747 678	3,425	13.6	1,343 234	1,577	14.2
Other Health Occupation	1,868 427	2,297	4.5	552 150	756	4.7	915 201	1,116	4.4	401 76	477	4.3
Other Profession	9,830 3,287	13,121	25.6	2,771 1,067	3,643	25.8	4,813 1,682	6,595	26.1	2,126 467	2,682	24.2
Owner, Manager Administrator (Non-Farm)	9,203 2,116	11,467	22.4	2,644 776	3,631	24.4	4,534 1,060	5,594	22.2	1,962 300	2,242	20.2
Clerical, Sales	2,785 566	3,352	6.5	595 140	751	5.0	1,355 294	1,649	6.5	840 112	952	8.6
Craftsman, Skilled Worker	3,634 1,509	4,646	9.1	973 298	1,234	8.3	1,829 595	2,334	9.2	872 208	1,078	9.7
Unskilled Worker (Non-Farm)	1,763 519	2,283	4.5	457 177	630	4.2	924 259	1,183	4.7	382 88	470	4.2
Farmer or Farm Worker	1,121 283	1,416	2.8	317 76	395	2.7	555 146	701	2.8	261 59	329	2.9
Homemaker	27 10	37	0.1	11 4	15	0.1	14 5	19	0.1	2 1	3	0.0
Other	4,451 1,095	5,549	10.9	1,257 374	1,644	11.0	2,174 501	2,525	10.4	1,050 220	1,280	11.6
No Response	3,941 766	4,774	---	278 87	432	---	1,729 368	2,077	---	1,934 311	2,265	---

* Totals include 200 students not identified by gender.
+ "No Responses" were excluded from total in computing percentages.
† Includes 20 too few final-year students (16 men and 4 women) and 20 too many intermediate-year students (16 men and 4 women).

Father's Occupation

Two-thirds (66 percent) of the fathers of 1975-76 medical students were in "Physician," "Other Health Occupation," "Other Profession," or "Owner, Manager, Administrator (Non-Farm)" categories (Table 18). The three largest groups comprised "Other Profession" (26 percent), "Owner, Manager, Administrator (Non-Farm)" (22 percent), and "Physician" (14 percent) backgrounds. Among the smaller groups, "Craftsman, Skilled Worker" and "Other" were represented by 9 and 11 percent respectively; "Clerical or Sales" accounted for 7 percent, but all other occupational categories were under 5 percent.

- their fathers had not completed high school (see Table 5 below)

No. 5

Distribution of Medical Students by Father's Educational Level, Sex, and Medical School Class Level, 1975-76

FATHER'S EDUCATIONAL LEVEL	ALL CLASSES			CLASS LEVEL								
				First Year			Intermediate Years			Final Year		
	Men Women	Total*	Percent of Total+	Men Women	Total*	Percent of Total+	Men Women	Total	Percent of Total+	Men Women	Total	Percent of Total+
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
TOTAL‡	44,478 11,448	55,983	100.0	11,813 3,505	15,318	100.0	31,634 7,679	27,318	100.0	11,781 3,164	13,347	100.0
Eighth Grade or Less	2,533 602	3,135	6.1	627 190	801	5.5	1,923 364	1,667	6.6	592 126	709	6.6
Some High School	2,496 624	2,902	5.7	610 201	813	5.6	1,525 288	1,414	5.6	569 115	675	6.3
Completed High School	6,187 1,427	7,622	15.0	1,680 467	2,158	14.4	3,919 699	3,738	14.8	1,465 261	1,726	16.1
Specialized Technical Training	1,427 465	1,886	3.7	426 167	594	4.0	871 218	865	3.5	325 80	405	3.8
Some College	5,518 1,467	6,845	13.4	1,506 426	1,937	12.9	3,719 891	3,419	13.5	1,293 226	1,498	14.0
Completed College	7,707 1,995	9,710	19.1	2,235 647	2,910	19.4	3,975 895	4,871	19.3	1,496 333	1,929	18.0
Graduate or Professional	14,346 4,112	18,469	36.3	4,761 1,598	5,670	37.9	7,071 2,067	9,128	36.2	3,014 657	3,631	34.2
Other	214 66	289	0.6	41 22	53	0.4	86 26	112	0.4	97 17	114	1.1
No Response	4,157 708	5,383	—	719 67	353	—	1,726 361	2,069	—	2,310 370	2,620	—

* Totals include 100 students not identified by gender.

+ "No Responses" were excluded from total in computing percentages.

‡ Includes 28 non-few final-year students (16 men and 4 women) and 29 non-many intermediate-year students (19 men and 4 women).

Father's Educational Level

More than half (55 percent) of the fathers of all medical students had either "Completed College" (19 percent) or "Graduate or Professional" education (36 percent) (Table 20). Of the other categories, the highest proportions were noted for "Completed High School" (15 percent) and "Some College" (13 percent).

- their mothers had not completed high school (see Table 6 below)

No. 6

Distribution of Medical Students by Mother's Educational Level, Sex, and Medical School Class Level, 1975-76

MOTHER'S EDUCATIONAL LEVEL	ALL CLASSES			CLASS LEVEL								
				First Year			Intermediate Years			Final Year		
(1)	Men Women (2)	Total* (3)	Percent of Total† (4)	Men Women (5)	Total* (6)	Percent of Total† (7)	Men Women (8)	Total (9)	Percent of Total (10)	Men Women (11)	Total (12)	Percent of Total† (13)
TOTAL§	44,415 11,448	55,983	100.0	11,613 3,605	15,318	100.0	21,639 5,679	27,318	100.0	11,183 2,164	13,347	100.0
Eighth Grade or Less	1,737 436	2,169	4.3	477 125	553	3.7	874 227	1,101	4.4	431 84	515	4.8
Some High School	2,131 532	2,666	5.2	517 155	695	4.6	1,655 272	1,927	5.3	579 105	684	5.9
Completed High School	11,041 2,377	13,423	25.4	3,068 850	3,923	25.2	5,369 1,135	6,524	25.8	2,584 392	2,976	27.7
Specialized Technical Training	2,747 819	3,570	7.0	777 263	1,040	7.0	1,385 432	1,817	7.2	585 128	713	6.6
Some College	7,739 1,970	9,716	19.1	2,192 638	2,837	19.0	3,603 983	4,786	19.0	1,744 349	2,093	19.5
Completed College	9,109 2,318	11,443	22.5	2,673 701	3,459	23.1	4,536 1,152	5,694	22.6	1,891 339	2,290	21.3
Graduate or Professional	5,509 2,112	7,669	15.1	1,674 714	2,396	15.0	2,795 1,068	3,873	15.3	1,099 310	1,400	13.0
Other	204 78	282	0.6	42 16	58	0.4	76 35	111	0.4	86 27	113	1.1
No Response	5,192 766	5,045	--	721 67	357	--	1,776 343	2,075	--	2,243 370	2,613	--

* Totals include 100 students not identified by gender.
† "No Responses" were excluded from total in computing percentages.
§ Includes 20 too few final-year students (16 men and 4 women) and 20 too many intermediate-year students (16 men and 4 women).

Mother's Educational Level

More than one-third (37.6 percent) of the mothers of the 1975-76 medical students had "Completed College" or "Graduate or Professional" educations

The financial and racial barriers blocking access to health careers extends far beyond doctors and/or medical schools as attested by tables 7 and 8.

Of particular note in table is the fact that these are as many Filipino physicians in the United States as black physicians.

No. 7

Persons employed in selected health occupations in the United States, by racial/ethnic category: April 1, 1970

Occupation	Total employed [1]	Racial/ethnic category						
		Total minority [1]	Black	American Indian	Japanese	Chinese	Filipino	White
		Number of persons employed						
Physicians (M.D. & D.O.)	279,658	19,411	6,002	175	1,654	2,608	5,658	260,247
Dentists	92,563	3,739	2,353	83	674	423	116	88,824
Optometrists	17,469	294	148	0	58	64	24	17,196
Pharmacists	110,331	4,757	2,782	127	874	747	140	105,574
Podiatrists	5,956	255	215	0	19	21	0	5,701
Veterinarians	19,041	167	104	20	0	22	0	18,874
Registered nurses	835,797	79,829	65,224	1,838	2,524	1,242	6,932	755,968
Dietitians	40,225	8,729	7,366	99	364	189	646	31,496
Health administrators	84,461	4,731	3,918	248	349	42	44	79,730
Clinical laboratory technologists, technicians	118,264	15,145	11,021	158	642	1,033	1,832	103,119
Dental hygienists	17,458	519	301	0	88	60	24	16,939
Health record technologists, technicians	10,948	724	547	0	68	0	87	10,222
Radiologic technologists, technicians	52,566	4,078	3,542	134	182	58	91	48,488
Dental laboratory technicians	26,810	2,311	1,455	21	505	128	142	24,499
Opticians and lens grinders and polishers	27,844	1,434	1,192	23	117	25	58	26,410
Dental assistants	90,497	4,415	3,188	151	624	227	179	86,082
Lay midwives	941	375	375	0	0	0		566
Practical nurses	235,546	53,836	51,094	1,212	479	169	591	181,710
Nursing aides, orderlies and attendants	723,576	192,199	183,398	4,125	1,169	374	1,607	531,377
		Percent						
Physicians (M.D. & D.O.)	100.0	6.9	2.1	0.1	0.6	0.9	2.0	93.1
Dentists	100.0	4.0	2.5	0.1	0.7	0.5	0.1	96.0
Optometrists	100.0	1.7	0.8	—	0.3	0.4	0.1	98.3
Pharmacists	100.0	4.3	2.5	0.1	0.8	0.7	0.1	95.7
Podiatrists	100.0	4.3	3.6	—	0.3	0.4	—	95.7
Veterinarians	100.0	0.9	0.5	0.1	—	0.1	—	99.1
Registered nurses	100.0	9.6	7.8	0.2	0.3	0.1	0.8	90.4
Dietitians	100.0	21.7	18.3	0.2	0.9	0.5	1.6	78.3
Health administrators	100.0	5.6	4.6	0.3	0.4	*	0.1	94.4
Clinical laboratory technologists, technicians	100.0	12.8	9.3	0.1	0.5	0.9	1.5	87.2
Dental hygienists	100.0	3.0	1.7	—	0.5	0.3	0.1	97.0
Health record technologists, technicians	100.0	6.6	5.0	—	0.6	—	0.8	93.4
Radiologic technologists, technicians	100.0	7.8	6.7	0.3	0.3	0.1	0.2	92.2
Dental laboratory technicians	100.0	8.6	5.4	0.1	1.9	0.5	0.5	91.4
Opticians and lens grinders and polishers	100.0	5.2	4.3	0.1	0.4	0.1	0.2	94.8
Dental assistants	100.0	4.9	3.5	0.2	0.7	0.3	0.2	95.1
Lay midwives	100.0	39.9	39.9	—	—	—	—	60.1
Practical nurses	100.0	22.9	21.7	0.5	0.2	0.1	0.3	77.1
Nursing aides, orderlies and attendants	100.0	26.6	25.3	0.6	0.2	0.1	0.2	73.4

[1] Includes other races, not shown separately.
* Less than 0.05 percent.
[4] Does not include Hispanics.

Source: U.S. Bureau of the Census, United States Census of Population: 1970, Occupational Characteristics, PC(2)-7A, 1973.

No. 8

Total enrollments in selected health professions schools in the United States, by racial/ethnic category

Profession and academic year	Total	Racial/ethnic category [1]						
		Total minority	Black	American Indian	Spanish surnamed	Mainland Puerto Rican	Oriental	White
	Number of students							
Medicine 1975–76	55,385	5,928 [2]	3,458	173	843 [3]	197	1,022	49,457
Osteopathic medicine 1975–76	3,421	120 [4]	58	14	22 [5]	1	24	3,301
Dentistry 1975–76	26,549	2,020 [6]	971	48	239 [7]	24	588	18,529
Optometry 1975–76	3,888	309	83	5	55	NA	166	3,579 [8]
Pharmacy 1975–76 [9]	23,836	2,060 [6]	915	36	359	NA	685	21,841 [8]
Podiatry 1975–76	2,085	25	58	3	18	NA	46	1,990
Veterinary medicine 1972–73	5,516	143	105	7	20	NA	11	5,373 [8]
Nursing 1975–76	250,395	19,854	14,046	9	3,837	NA	1,971	230,531
Diploma	60,213	2,547	1,943	—	402	—	202	57,666
Associate degree	89,492	7,399	4,984	—	1,688	—	747	82,093
Baccalaureate	100,690	9,908	7,139	—	1,747	—	1,022	90,772
	Percent							
Medicine	100.0	10.7	6.2	0.3	1.5	0.4	1.8	89.3
Osteopathic medicine	100.0	3.5	1.6	0.4	0.5	[12]	0.7	96.5
Dentistry	100.0	9.8	4.8	0.2	1.2	0.1	2.9	90.2
Optometry	100.0	7.9	2.1	0.1	1.4	NA	4.3	92.1
Pharmacy	100.0	8.4	3.8	0.2	1.5	NA	2.9	91.6
Podiatry	100.0	6.0	2.8	0.1	0.9	NA	2.2	94.0
Veterinary medicine	100.0	2.6	1.9	0.1	0.4	NA	0.2	97.4
Nursing	100.0	7.9	5.6	[13]	1.5	NA	0.8	92.1
Diploma	100.0	4.3	3.2	—	0.7	—	0.3	95.7
Associate degree	100.0	8.3	5.5	—	1.9	—	0.8	91.7
Baccalaureate	100.0	9.0	7.1	—	1.7	—	1.0	91.0

[1] Minority students include Americans only for medicine, osteopathic medicine, and pharmacy; all foreign students are included with White students. For other professions, foreign minority students are included in figures for minorities. University of Puerto Rico students are excluded from table except for nursing.
[2] Includes 238 students from other minority groups, not shown separately.
[3] Includes Mexican Americans and Cuban Americans only.
[4] Includes 3 students of unspecified minority, not shown separately.
[5] Includes Mexican Americans only.
[6] Includes 144 students from other minority groups, not shown separately.
[7] Excludes 3 schools which did not provide information on racial/ethnic category; includes enrollments in two 3-year city.
[8] Includes 55 students of unspecified minority, not shown separately.
[9] Includes with Oriental.
[10] Spanish-speaking.
[11] Includes American Indian and Alaskan.
[12] Less than 0.05 percent.
[13] Less than 0.05 percent.

Source: U.S.P.H.S., Bureau of Health Manpower, Minorities And Women in the Health Fields, in preparation.

The editorial on the following page again underscores the need for legislation based on the principles of HR 10736.

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3. Powell LC Jr: Intense plasmapheresis in the pregnant Rh-sensitized woman. Am J Obstet Gynecol 101:133-170, 1968
4. Pinching AJ, Peters DK, Davis JN: Remission of myasthenia gravis following plasma-exchange. Lancet 2:1373-1376, 1976
5. Graham-Pole J, Barr W, Willoughby MLN: Continuous-flow plasmapheresis in management of severe rheumatoid disease. Br Med J 1:1135-1136, 1977
6. Fraser ID, Bethunejay JR, Bennett MO, et al: Intensive sequential plasmapheresis in severe rheumatoid immunosuppression. Lancet 1:6-8, 1978
7. Lockwood CM, Rees AJ, Peterson TA, et al: Immunosuppression and plasma-exchange in the treatment of Goodpasture's syndrome. Lancet 1:711-715, 1976
8. Lockwood CM, Rees AJ, Pinching AJ, et al: Plasma-exchange and immunosuppression in the treatment of fulminating immune-complex glomerular nephritis. Lancet 1:63-67, 1977
9. Jones JV, Cumming RH, Bucknall RC, et al: Plasmapheresis in the management of acute systemic lupus erythematosus? Lancet 1:709-711, 1976
10. Marks GJ, Parry HF, Mowbray J, et al: Plasmapheresis in systemic lupus erythematosus. Br Med J 1:1373-1376, 1977
11. Terman DS, Petty D, Hathcock R, et al: Specific removal of DNA antibodies in vivo by extracorporeal circulation over DNA immobilized in collodion charcoal. Clin Immunol Immunopathol 1:90-96, 1977

MINORITY ADMISSIONS: BEYOND BAKKE

Few legal contests in recent times have evoked as much national soul-searching as the celebrated Supreme Court case of *Bakke vs. Regents of the University of California*. The legal issue revolves about the minority-admissions policy of the medical school at the University of California in Davis and, by implication, the "affirmative-action" policies of all state-supported or federally aided institutions of higher learning.

There is no virtue in further discussion of the case itself. The legal and philosophical subtleties of "quotas," "goals," "reverse discrimination" and the like have been exhaustively explored. However, in all the discussion one central point seems to have been forgotten. Regardless of the Court's decision (which, at this writing, is still not known), the problem of black* under-representation in United States medical schools will not have been solved. As Sleeth and Mishell point out in this issue of the *Journal*, the basic difficulty is an inadequate supply of black candidates. If their view is substantially correct — and the data that they marshall seem convincing — the problem is not to be resolved merely by wrestling with admissions policies. Some critics suggest that admissions committees rely too much on grades and test scores, and not enough on personal characteristics. But, whatever criteria one adopts, the evidence presented by Sleeth and Mishell implies that there would be no quick way to increase substantially the present [illegible] through the wholesale, systematic application of quite different standards for blacks and whites. Some such an alternative would be damaging to all concerned, other approaches must be sought.

Sleeth and Mishell suggest that the pool of qualified black applicants to medical school needs to be increased — and, of course, they are right. That is the obvious, sensible, long-term solution to the problem. There are proportionately too few black students entering the educational pipeline leading to graduate schools, and too few staying the distance. Sleeth and Mishell recommend programs in high schools to bring more qualified black premedical students into college. One such program was started in Philadelphia in 1968 by the American Foundation for Negro Affairs (AFNA).[1] Supported by federal funds, with assistance from the Association of American Medical Colleges and private foundations, and with the co-operation of the medical schools in Philadelphia, the AFNA plan consists of a co-ordinated educational effort to recruit promising black students who have completed the 10th grade, to interest them in medical careers and to help them through pre-professional education in high school and college. It is still too early to evaluate long-term results, but the initial experience with the plan has been encouraging, and efforts are being made to extend it nationally.

Many educators are convinced that interventions of this sort must begin much earlier if they are to be maximally effective. Children from economically and culturally deprived homes enter elementary school already seriously handicapped. Therefore, it is argued, remedial efforts should be directed at the earliest phases of the learning sequence. Beginning in the middle 1960's, a variety of experiments have been undertaken with preschool children of low-income families, largely black. Described collectively under the name "Head Start," these experiments have sought to stimulate learning in deprived children through special neighborhood nursery schools and home-based programs involving parents as well as children. Similar programs, called "Follow Through," have worked with youngsters in the early elementary-school years. Here, again, data are insufficient to permit firm conclusions about long-term effects, but initial reports seem to indicate that very early compensatory education can improve a child's scholastic performance in the elementary grades. There is now reason to believe that a large-scale federal investment in programs of this sort might pay great dividends in lifting the educational attainments of impoverished children.[2]

The United States has paid a heavy price for its initial toleration of slavery and for nearly a century of failure to deal with the consequences. The end is not [illegible] in sight. The social, economic and cultural problems that are responsible for the under-representation of blacks in medical schools cannot be solved by the courts. We need to look beyond the Bakke case to the educational handicaps faced by poor black children in this country today. Only by a sustained commitment to practical social action can we hope to provide black children with the same opportunity to become physicians as their white compatriots enjoy. The need for new educational programs is clear. Do we have enough time?

ARNOLD S. RELMAN, M.D.

II. A review of studies which focus on health resources, demographic characteristics of a population and morbidity and mortality leads one to conclude:

- minorities and the poor tend to be medically underserved, in rural as well as urban areas as attested by a recent article in the N.Y. Times.

The New York Times/Dec. 13, 1972

A Virtual Lack of Doctors Found In Some Slum Areas of New York

By Contrast, Health Department Notes Ample Supply in Affluent Manhattan Areas

Excerpts from the article revealed:

In a city that has nearly twice as many physicians per capita as the national average, the New York City Department of Health has found a number of neighborhoods in poverty-stricken areas with grinding health problems that have virtually no physicians to deal with them.

A statistical study just completed by the department has finally pinpointed all of the city's 13,137 physicians — something that has never been accomplished before. While the department did not expect to find many physicians practicing in the South Bronx or in the Bedford-Stuyvesant section of Brooklyn, its top officials expressed shock at not finding any in some neighborhoods.

Moreover the absence of practicing physicians corresponded with new health indexes that confirmed that most of the neighborhoods were in full medical crisis.

The city Department cited health planning Area 18 in the Tremont section of the South Bronx. It has a population of about 10,000 and not one practicing private physician except for a Medicaid clinic. A few blocks to the southeast in the Morrisania section, health planning Area 23, which has about the same size population as Area 18, including part of the Tremont Center visited recently, has no physicians, either and only one Medicaid clinic.

The nearest hospital facilities are divisions operated by the Bronx-Lebanon Hospital Center.

In Brooklyn the department identified the 20th health planning area in the Bedford-Stuyvesant section as having only one physician for a population of 18,500 and in another health area in Brownsville the 59th it saw was only one physician for 12,000 people.

In one between 61st and 79th Streets, there are 974 physicians serving a population of 23,000, or 42.3 doctor for every 1,000 people.

Between 79th and 96th Streets there are 1,039 physicians for 32,000 people, or 34.1 per 1,000.

A Difference in Deaths

Other health index between the two East Side neighborhoods and the four in the Bronx and Brooklyn were equally lopsided.

For example, the infant mortality rate was 24.2 and 28.7 per 1,000 babies in the Bronx neighborhoods and 24.9 and 28 the two Brooklyn ones, compared with 11.1 and 16.9 in the two Manhattan areas.

In addition the department cited another key health indicator: the percentage of children 5 years old or less living in a female-run household. In the Bronx, the percentage was 48.7 and 46.8. In Brooklyn 47.4 and 33.6, and on the East Side 5.3 and 6.1

According to Dr. Imperato, the health problems in poverty neighborhoods without physicians are particularly critical because families neglect their health needs rather than travel to a hospital by subway or bus and wait for hours for care. As a result, small medical problems became worse, eventually becoming critical and requiring far more costly inpatient hospitalization.

Furthermore, the Health Commissioner said, the city, which has 2.4 physicians for every 1000 people, is victimized by Federal health-aid formulas that place the city above the national physician average of 1.9.

While Manhattan, with all of its medical centers and physician offices, has 6.3 physicians for every 1,000 people, the rest of the city reflects that national average. But again the doctors are concentrated in more affluent sections, leaving poor areas without any.

For example, 101 of the city's 340 designated health areas have less than one physician for every 1,000 residents, about a third below the national average.

This same pattern of plentiful, but poorly distributed resources within a community's boundary in juxtaposition with high morbidity and mortality rates exists in Washington, D.C. (See Tables 9-14).

No. 9
DEMOGRAPHIC DATA (1972)

o Population		730,403
o % Blacks		73%
o % Poor	122,753	17%

No. 10
HEALTH RESOURCES DATA
(1972 - 1974)

- o Non-Federal physicians in patient care/100,000 population - - 340
  (Next highest State - New York - - 198)
- o Civilian Population per one Non-Federal physician in patient care- - - - - - - - - - 294
  (Next lowest ratio - New York - - - 554)
- o Number of Medical Schools - - - 3
- o Number of Medical Students graduating each year - - - 485
- o Number of Dental Schools - - - 2
- o Number of Dental Students graduating each year - - - 246
- o Number of Baccalaureate Nursing Programs - - 3
- o Number of Hospital Beds - - - 2,786

MORBIDITY AND MORTALITY TABLES (11-14)

No. 11

CITIES OVER 500,000 POPULATION, 1952 (BY PLACE OF RESIDENCE)

--INFANT DEATHS AND NEONATAL DEATHS BY RACE, BY NUMBER, RATE AND RANK:

City	Infant Deaths[1]								
	Total			White			Negro		
	Number	Rate	Rank	Number	Rate	Rank	Number	Rate	Rank
Baltimore, Md.	283	19.8	10	85	12.5	14	198	24.6	10
Chicago, Ill.	1,541	25.6	5	530	18.0	3	1,011	33.0	2
Cleveland, Ohio	328	28.1	4	140	21.4	1	188	31.8	5
Columbus, Ohio	171	18.1	13	113	16.1	9	58	23.8	11
Dallas, Texas	340	22.0	7	NA	NA	NA	NA	NA	NA
Detroit, Mich.	741	27.4	1	178	17.9	4	563	32.9	3
Houston, Texas	517	19.0	17	NA	NA	NA	NA	NA	NA
Indianapolis, Ind.	267	18.6	12	174	17.4	7	73	22.5	12
Jacksonville, Fla.	176	17.5	14	111	15.9	10	63	21.3	13
Kansas City, Mo.	170	20.3	9	95	17.4	7	75	27.5	9
Philadelphia, Pa.	595	21.3	8	219	14.5	11	376	29.2	8
Phoenix, Ariz.	180	15.7	15	146	14.3	12	34	28.3	7
Pittsburgh, Pa.	133	21.0	6	66	17.5	6	67	33.1	1
St. Louis, Mo.	267	26.2	3	71	17.7	5	196	31.6	4
San Antonio, Texas	303	19.8	10	NA	NA	NA	NA	NA	NA
Seattle, Wash.	81	14.7	16	56	13.5	13	25	18.1	14
Washington, D. C.	323	27.2	2	27	19.3	2	296	28.1	8

[1]Rates per 1,000 live births.

No. 12

Maternal mortality for the United States, Washington, D.C., the average of 10 other cities, and D.C. rank among cities.

Year	D.C.	Average of 10 cities*	U.S.	D.C. city rank (of 11)
1950	82.1	41.0	37.1	2nd highest rate
1951	89.0	50.0	36.9	2nd highest rate
1952	89.9	51.0	35.2	2nd highest rate
1953	106.0	44.0	33.8	highest rate
1954	99.9	31.2	33.3	2nd highest rate
1955	58.8	37.4	31.6	3rd highest rate
1956	61.8	37.8	29.1	2nd highest rate
1957	99.9	35.3	28.3	highest rate
1950-1957	115.7	58.0	-21.6	

* St. Louis not included

C.)

No. 13

Cirrhosis mortality rates per 100,000 population 1960-1967 for the District of Columbia, ten cities of comparable size (see text), and the United States

Year	D.C.	Other Cities	U.S.	D.C. City rank (of 11)*	D.C. State rank (of 51)
1960	26.9	24.4	11.1	4th highest rate	highest rate
1961	31.3	26.0	11.3	2nd highest rate	highest rate
1962	31.3	24.4	11.7	2nd highest rate	highest rate
1963	32.8	24.7	11.9	2nd highest rate	highest rate
1964	31.4	25.0	12.1	2nd highest rate	highest rate
1965	39.2	26.9	12.8	2nd highest rate	highest rate
1966	43.4	30.0	13.6	2nd highest rate	highest rate
1967	44.6	29.9	13.8	2nd highest rate	--------
1960-1967 change	+65.8%	+22.6%	+24.3%		

* Houston not reporting

No. 14

Tuberculosis mortality rates per 100,000 population 1960-1967, for the District of Columbia, eleven cities of comparable size (see text), and the United States

Year	D.C.	Other Cities	U.S.	D.C. city rank (of 12)	D.C. state rank (of 51)
1960	13.5	10.5	6.0	4th highest rate	highest rate
1961	13.4	9.4	5.4	3rd highest rate	highest rate
1962	11.9	8.8	5.1	3rd highest rate	highest rate
1963	12.3	8.8	4.9	2nd highest rate	highest rate
1964	12.0	7.7	4.3	3rd highest rate	highest rate
1965	12.7	7.6	4.1	highest	highest rate
1966	11.5	6.8	3.9	tied for highest	highest rate
1967	10.5	6.5	3.5	3rd highest rate	--------
1960-1967 change					
	-22.5%	-38.1%	-41.7%		

Although it's true that U.S. infant mortality rates, and maternal mortality rates have declined and life expectancy rates have increased over the past 20 years coincident with massive expenditures on health, as well as an increase in health manpower and sophisticated technology (See Tables 15-17), it is also true that during this same period median family incomes rose, the number of families living in poverty decreased and many more Americans completed fours years of high school or more (See Tables 18-20).

No. 15

Infant Mortality Rates by Specified Race: United States, 1950–74 (Rates per 1,000 live births)

Year	All races	White	Black	Native American[2]	Chinese	Japanese	Other races[3]	All races excl. White and Black
1950[1]	29.2	26.8	43.9	62.1	19.3	19.1	27.9	35.2
1951[1]	28.4	25.8	44.3	—	—	—	—	35.5
1952[1]	29.4	25.5	46.9	—	—	—	—	40.2
1953[1]	27.8	25.0	44.5	—	—	—	—	48.8
1954[1]	26.6	23.9	42.9	—	—	—	—	43.1
1955[1]	26.4	23.6	43.1	53.7	18.1	10.9	17.6	38.4
1956[1]	26.0	23.2	42.4	55.1	19.4	13.9	16.8	36.0
1957[1]	26.3	23.3	44.2	56.9	16.3	13.9	16.7	35.5
1958[1]	26.3	23.3	44.3	55.1	18.9	14.1	18.7	35.8
1959[1]	27.1	23.9	46.1	48.2	15.1	12.8	20.0	32.6
1959[4]	26.4	23.2	44.8	49.3	14.7	15.3	23.5	31.2
1960	26.0	22.9	44.3	43.4	13.9	14.8	22.7	28.4
1961	25.9	22.4	43.8	42.5	16.8	14.4	27.8	28.5
1962[1]	25.3	22.3	42.6	42.8	14.2	17.6	25.4	29.0
1963[1]	25.2	22.2	42.6	—	13.3	12.2	—	26.3
1964[1]	24.8	21.6	42.3	—	9.0	18.0	—	26.0
1965	24.7	21.5	41.7	—	9.5	10.6	19.8	24.5
1966	23.7	20.6	40.2	36.9	9.5	10.7	15.9	20.8
1967	22.4	19.7	37.5	30.8	8.9	10.3	15.4	19.6
1968	21.8	19.2	35.2	23.0	6.3	9.5	13.9	17.1
1969	20.9	18.4	34.9	25.8	8.4	10.8	14.8	16.3
1970	20.0	17.8	32.6	22.0	8.4	8.7	11.9	14.1
1971	19.1	17.1	30.4	—	7.6	8.3	12.5	12.8
1972	18.5	16.4	29.6	—	5.5	9.6	10.0	12.7
1973	17.7	15.8	28.1	13.9	6.0	8.3	9.5	12.2
1974	16.7	14.8	26.0	10.5	—	—	—	—

No. 16

Maternal Mortality Rates by Race: Birth ... ...ican States or United States: 1915-1971

Year	Total	White	Racial Minorities	Year	Total	White	Racial Minorities
1974	14.6	10.0	35.1	1934	82.4	37.2	143.8
1973	15.7	10.7	34.6	1933	81.1	44.1	165.1
1972	18.9	14.3	38.5	1932	87.8	48.9	168.1
1971	18.8	13.0	45.3	1931	75.0	54.5	201.3
1970	21.5	14.4	55.9	1930	82.3	61.1	221.5
1969	22.2	15.5	59.7	1929	90.3	68.1	234.8
1968	24.5	16.6	63.6	1928	116.9	81.4	301.0
1967	24.5	19.5	69.5	1927	134.5	103.6	334.6
1966	28.0	19.5	72.4	1926	156.7	130.7	358.9
1965	29.1	20.2	83.7	1925	207.2	172.1	454.8
1964	31.6	21.0	89.9	1924	227.9	189.4	508.0
1963	33.3	22.3	95.9	1923	245.2	210.5	509.9
1962	35.8	24.0	93.9	1922	250.7	221.8	544.0
1961	35.2	23.8	101.3	1921	316.3	265.0	678.1
1960	35.9	24.9	97.9	1920	319.8	273.5	670.5
1959	37.1	26.0	102.1	1919-20	430.9	379.4	1,090.7
1958	37.4	25.8	101.8	1918-24	636.0	575.4	1,163.7
1957	37.6	26.3	110.3	1920-23	608.6	615.0	1,134.3
1956	41.0	27.5	110.7	1970-74	869.5	849.2	1,250.5
1955	47.0	32.9	130.3	1915-19	727.9	700.3	

Source: U.S. Public Health Service, Center for Health Statistics, "Vital Statistics of the U.S. 1974, Vol. II, Mortality, Part A," (Preliminary)

No. 17

Estimated Average Length of Life in Years by Race and Sex: Death-registration States, 1900-1908, and United States, 1909-1972

Area and Year	White		Racial Minority		Area and Year	White		Racial Minority	
	Male	Female	Male	Female		Male	Female	Male	Female
United States					1955	67.0	73.0	61.3	65.2
1974	68.9	76.6	62.9	71.2	1954	68.5	73.6	60.2	63.7
1973	69.4	76.1	63.9	70.5	1953	72.7	76.3	63.9	66.8
1972[1]	68.3	75.5	61.5	69.9	1952	69.0	74.5	59.8	64.6
1971[1]	68.3	75.8	61.6	69.7	1951	68.8	74.2	59.5	63.5
1970[1]	68.0	75.6	61.3	69.4	1950	68.2	73.5	58.9	63.2
1969	67.8	75.1	60.9	68.4	1949	66.5	72.0	57.3	61.7
1968	67.9	75.1	60.9	67.5	1948	65.9	71.4	56.7	61.1
1967	67.6	74.9	60.1	67.5	1947	65.5	71.0	56.3	60.7
1966	67.6	74.8	61.1	67.2	1946	64.6	70.2	55.4	59.9
1965	67.6	74.7	60.7	67.4	1945	62.8	68.4	53.6	58.1
1964	67.5	74.7	61.1	67.4	1944	63.0	68.6	53.8	58.3
1963	67.7	74.6	61.1	67.2	1943	62.7	68.3	53.5	58.0
1962	67.5	74.4	60.8	66.5	1942	63.5	69.1	54.3	58.8
1961[2]	67.5	74.4	61.5	66.8	1941	64.1	69.7	54.9	59.4
1960[2]	67.3	74.3	61.5	67.0	1940	62.9	68.5	53.7	58.2
1961	67.4	74.5	61.6	67.0	1939	63.3	68.9	54.1	58.6
1960	67.4	74.1	61.1	66.3	1938	62.1	67.7	52.9	57.4
1959	67.5	74.2	61.3	66.5	1937	61.4	67.0	52.2	56.7
1958	67.4	73.9	61.0	66.0	1936	60.8	66.4	51.6	56.1
1957	67.3	73.7	60.7	65.9	1935	60.1	65.7	50.9	55.4
1956	67.3	73.8	61.1	66.1	1934	59.5	65.1	50.3	54.8
1955	67.4	73.7	61.4	66.1	1933	59.1	64.7	49.9	54.4
1954	67.5	73.7	61.1	65.9	1932	59.3	64.9	50.1	54.6
1953	66.8	73.0	59.7	64.8	1931	59.7	65.3	50.5	55.0
1952	66.9	72.9	59.1	63.8	1930	59.5	65.1	50.3	54.8
1951	66.8	72.9	59.1	63.9	1929	57.9	63.5	48.7	53.2
1950	66.5	72.6	58.8	63.5	1928	58.4	64.0	49.2	53.7
1949	66.2	72.3	58.5	63.2	1927	58.1	63.7	48.9	53.4
1948	65.9	72.0	58.2	62.9	1926	57.6	63.2	48.4	52.9
1947	65.5	71.6	57.8	62.5	1925	57.3	62.9	48.1	52.6
1946	64.6	70.7	56.9	61.6	1924	56.9	62.5	47.7	52.2
1945	62.8	68.9	55.1	59.8	1923	56.4	62.0	47.2	51.7
1944	63.0	69.1	55.3	60.0	1922	56.4	62.0	47.2	51.7
1943	62.7	68.8	55.0	59.7	1921	55.3	60.9	46.1	50.6
1942	63.5	69.6	55.8	60.5	1920	54.1	59.7	44.9	49.4
1941	64.1	70.2	56.4	61.1	1919	54.5	60.1	45.3	49.8
1940	62.9	69.0	55.2	59.9	1918	50.1	55.7	40.9	45.4
1939	63.3	69.4	55.6	60.3	1917	49.3	54.9	40.1	44.6
1938	62.1	68.2	54.4	59.1	1916	50.7	56.3	41.5	46.0
1937	61.4	67.5	53.7	58.4	1915	53.1	58.7	43.9	48.4
1936	60.8	66.9	53.1	57.8	1914	53.1	58.7	43.9	48.4
1935	60.1	66.2	52.4	57.1	1913	54.3	59.9	45.1	49.6
1934	59.5	65.6	51.8	56.5	1912	50.0	55.6	40.8	45.3
1933	59.1	65.2	51.4	56.1	1911	51.3	56.9	42.1	46.6
1932	59.3	65.4	51.6	56.3	1910	50.2	55.8	41.0	45.5
1931	59.7	65.8	52.0	56.7	1909	51.5	57.1	42.3	46.8
1930	59.5	65.6	51.8	56.5	1908	47.3	51.9	38.1	42.6
1929	57.9	64.0	50.2	54.9	1907	47.9	52.5	38.7	43.2
1928	58.4	64.5	50.7	55.4	1906	48.4	53.0	39.2	43.7
1927	58.1	64.2	50.4	55.1	1905	47.2	51.8	38.0	42.5
1926	57.6	63.7	49.9	54.6	1904	47.6	52.2	38.4	42.9
1925	57.3	63.4	49.6	54.3	1903	47.1	51.7	37.9	42.4
1924	56.9	63.0	49.2	53.9	1902	46.6	51.2	37.4	41.9
1923	56.4	62.5	48.7	53.4	1901	46.0	50.6	36.8	41.3
1922	56.4	62.5	48.7	53.4	1900	46.3	50.9	37.1	41.6
1921	55.3	61.4	47.6	52.3					
1920	54.1	60.2	46.4	51.1					
1919	54.5	60.6	46.8	51.5					
1918	50.1	56.2	42.4	47.1					
1917	49.3	55.4	41.6	46.3					
1916	50.7	56.8	43.0	47.7					
1915	53.1	59.2	45.4	50.1					
1914	53.1	59.2	45.4	50.1					
1913	54.3	60.4	46.6	51.3					
1912	50.0	56.0	42.3	46.8					
1911	51.3	57.3	43.6	48.1					
1910	50.2	56.2	42.5	47.0					
1909	51.5	57.5	43.8	48.3					
1908	47.3	52.3	39.6	43.8					
1907	47.9	52.9	40.2	44.4					
1906	48.4	53.4	40.7	44.9					
1905	47.2	52.2	39.5	43.7					
1904	47.6	52.6	39.9	44.1					
1903	47.1	52.1	39.4	43.6					
1902	46.6	51.6	38.9	43.1					
1901	46.0	51.0	38.3	42.5					
1900	46.3	51.3	38.6	42.8					

[1] Data for 1970-72 are for States with 100 percent coverage of deaths for the entire year. Data are provisional, according to the Publication Committee of Division of Vital Statistics.

[2] Data for 1960-61 are for States with 100 percent coverage of deaths for the entire year. Data are provisional, according to the Publication Committee of Division of Vital Statistics.

No. 18

Median Income of Families: 1950 to 1974

(in current dollars)

Year	Race of head			Ratio: Racial Minorities to White	Ratio: Black to White
	Racial Minorities	Black	White		
1950	$3,669	(NA)	$3,445	0.94	(NA)
1951	2,037	(NA)	3,859	0.53	(NA)
1952	2,338	(NA)	4,114	0.57	(NA)
1953	2,461	(NA)	4,392	0.56	(NA)
1954	2,410	(NA)	4,339	0.55	(NA)
1955	2,549	(NA)	4,605	0.55	(NA)
1956	2,609	(NA)	5,063	0.52	(NA)
1957	2,764	(NA)	5,168	0.54	(NA)
1958	2,711	(NA)	5,300	0.51	(NA)
1959	3,161	53,947	5,993	0.54	0.52
1960	3,233	(NA)	5,835	0.55	(NA)
1961	3,191	(NA)	5,981	0.53	(NA)
1962	3,337	(NA)	6,237	0.53	(NA)
1963	3,465	(NA)	6,548	0.53	(NA)
1964	3,839	3,724	6,854	0.56	0.54
1965	3,994	3,886	7,251	0.55	0.54

Year	Race of head			Ratio: Racial Minorities to White	Ratio: Black to White
	Racial Minorities	Black	White		
1966	$4,674	$4,582	$7,732	0.60	0.58
1967	5,094	4,875	8,234	0.62	0.59
1968	5,590	5,360	8,937	0.63	0.60
1969	6,191	5,999	9,794	0.63	0.61
1970	6,516	6,279	10,236	0.64	0.61
1971	6,714	6,440	10,672	0.63	0.60
1972	7,106	6,864	11,549	0.62	0.59
1973	7,596	7,269	12,595	0.60	0.58
1974					
United States	8,256	7,801	13,356	0.62	0.58
South	8,421	8,232	12,050	0.70	0.68
North and West	10,015	9,271	13,956	0.72	0.67
Northeast	9,393	8,704	14,164	0.66	0.61
North Central	9,901	9,844	14,017	0.71	0.70
West	11,197	8,585	13,339	0.83	0.64

[illegible]

No. 19

Number and Percent of Persons Below the Poverty Level
By Racial and Ethnic Group: 1959 to 1975

(Numbers in thousands. Persons as of March of the following year)

Year	All Persons		Racial-Ethnic Group					
			White		Racial Minorities		Hispanic	
	#	%	#	%	#	%	#	%
1975	25,877	12.3	17,709	9.7	8,168	29.3	2,991	25.9
1974	23,370	11.2	15,736	8.6	7,634	27.8	2,575	23.0
1973	22,973	11.1	15,142	8.4	7,831	27.6	2,366	23.5
1972	24,460	11.9	16,203	9.0	8,257	31.0	2,414	26.3
1971	25,559	12.5	17,484	9.9	[illegible]	[illegible]	[illegible]	[illegible]
1970	25,420	12.6	17,770	9.9	[illegible]	[illegible]	[illegible]	[illegible]
1969	24,147	12.1	16,659	9.5	[illegible]	[illegible]	[illegible]	[illegible]
1968	25,389	12.8	17,395	10.0	[illegible]	[illegible]	[illegible]	[illegible]
1967	27,769	14.2	19,506	11.0	[illegible]	[illegible]	[illegible]	[illegible]
1966	28,510	14.7	19,290	11.3	[illegible]	[illegible]	[illegible]	[illegible]
1965	29,276	15.2	19,654	11.5	[illegible]	[illegible]	[illegible]	[illegible]
1964	32,513	17.0	21,420	12.7	[illegible]	[illegible]	[illegible]	[illegible]
1963	36,436	19.5	23,957	14.4	[illegible]	[illegible]	[illegible]	[illegible]
1962	38,625	21.0	25,420	15.4	[illegible]	[illegible]	[illegible]	[illegible]
1961	39,851	21.9	27,463	17.0	[illegible]	[illegible]	[illegible]	[illegible]
1960	39,628	22.0	28,048	17.6	[illegible]	[illegible]	[illegible]	[illegible]
1959	39,490	22.4	28,484	18.1	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

No. 20

Level of school completed by persons 25 years old and over and 25 to 29 years old, by racial group: selected years, 1960 to 1974

Race, age, and date	Percent, by level of school completed			Median school years completed
	Less than 5 years of elementary school	4 years of high school or more	4 years of college or more	
1	2	3	4	5
White and racial minorities				
25 years old and over				
April 1960	8.3	41.1	7.7	10.5
March 1970	5.3	55.2	11.0	12.2
March 1972	4.6	59.2	12.0	12.2
March 1974	4.4	61.2	13.3	12.3
25 to 29 years old				
April 1960	2.8	60.7	11.1	12.3
March 1970	1.1	75.4	16.4	12.6
March 1972	.8	79.8	19.0	12.7
March 1974	1.2	81.9	20.7	12.8
White				
25 years old and over				
April 1960	6.7	43.2	8.1	10.8
March 1970	4.2	57.4	11.6	12.2
March 1972	3.7	60.4	12.6	12.3
March 1974	3.5	63.3	14.0	12.4
Racial Minorities				
25 years old and over				
April 1960	23.5	21.7	3.5	8.2
March 1970	14.4	36.1	6.1	10.1
March 1972	12.8	39.1	6.9	10.5
March 1974	12.2	44.3	8.0	11.1
25 to 29 years old				
April 1960	7.2	36.6	5.4	10.8
March 1970	2.2	58.4	10.0	12.2
March 1972	1.2	66.6	11.6	12.4
March 1974	1.8	71.3	11.0	12.5
Hispanic				
25 years old and over				
March 1974	19.4	36.5	5.5	9.4

Source: U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 274, Dec. 1974.

Our next witness this morning is Dr. Vijaya Melnick, professor at the University of the District of Columbia. You may proceed, Dr. Melnick.

STATEMENT OF VIJAYA MELNICK, PROFESSOR, UNIVERSITY OF THE DISTRICT OF COLUMBIA

Dr. MELNICK. Mr. Chairman, and members of the committee. I appreciate the invitation and the opportunity to appear before you to testify on H.R. 10736, a bill to amend the Elementary and Secondary Education Act of 1965, to establish projects to educate, motivate and encourage secondary school students from an economically disadvantaged background to pursue training at the undergraduate and graduate level in the biomedical sciences.

I want to emphasize here, Mr. Chairman, that we have heard in much of the testimony the emphasis on medicine, and I want to hear underlined the "bio" part of the medicine as well. I think graduate programs in the biomedical sciences are denied to students from disadvantaged backgrounds. Their numbers are equally and similarly low. So I would like to make that emphasis as strongly as I can.

Mr. Chairman, I would like to briefly describe my professional experience. I am a biologist and my general research interest is in the area of molecular and cellular biology. Therefore, you can see my interest in the bio part of the medical issue.

I am at present a professor of biology and also a premedical sciences adviser at the University of the District of Columbia, Mount Vernon Square Campus. Since a vast majority of my students come from economically disadvantaged background, and many seek careers in the biomedical professions, this legislation and the concerns it addresses are certainly close to home for me.

Recently, I had the opportunity to edit a book with Dr. Franklin D. Hamilton, on "Minorities in Science: A Challenge for Change in Biomedicine." It contains a series of articles that examine the present and potential role of minorities in the biomedical community and strategies that have to be adopted so as to achieve a truly equitable and just society.

I am proud to point out that one of the sponsors of this bill, Congressman Edward Roybal, is a contributor to that book.

The experience of putting the book together allowed me to see the problems of the minorities, and very often they are synonymous to the problems of the disadvantaged, on a national level. One of the major recommendations in the book is to have programs which reach students at an early enough stage so that they can become fully competitive with their peers to pursue advanced training in the biomedical and health careers.

It is indeed commendable that this legislation, illustrating the national focus of its sponsors, will help economically disadvantaged students from all groups and regions of our country.

This bill will not only help deserving students living in our cities, but will also help students who live in rural areas and who may not have had an opportunity to come in direct contact with

experiences that stimulate and encourage them to pursue careers in the biomedical professions.

It will open new horizons for a group of people who are highly motivated, competent and have the potential to make great contributions to our nation.

Therefore, Mr. Chairman, it is imperative that we adopt legislation, such as H.R. 10736, which will increase the educational opportunities for students from disadvantaged backgrounds. Study after study has shown that the number of such students attending health professional schools as well as graduate schools in the life sciences is dismally low.

The major reasons for this are:

(1) A real economic barrier that makes higher education in biomedicine almost prohibitive;

(2) A lack of adequate academic preparation; and

(3) A lack of proper counseling and awareness of opportunities that stimulate and encourage the student to pursue careers in the biomedical fields.

A student so disadvantaged is not only less likely to be admitted into undergraduate and graduate biomedical programs, but even when admitted is less likely to complete the program at a normal pace. The probability of these students adding to the attrition statistics is also high.

This legislation is designed to increase the numbers of qualified and competitive students, who come from disadvantaged backgrounds, but lifting the prevailing serious academic barriers and preparing the students through direct training and experience for careers in biomedicine.

Lack of preparation in mathematics and science, at the junior and senior high school levels, has proven to be a major obstacle for disadvantaged students to enter college programs in science and pursue careers in biology and medicine.[1]

Therefore, if we are indeed interested in increasing the pool of qualified students who can enter and successfully complete programs leading to careers in the biomedical professions, then we cannot do so without bringing about a substantial change in the preparation of these students at the junior and senior high school levels.

H.R. 10736 seeks to address this problem specifically by involving a select group of economically disadvantaged but talented students in innovative and stimulating programs that will enhance their basic academic skills and preparation for training in the biomedical professions.

The 1970 census report shows that 71 percent of all families in the United States had an annual income of less than $10,000. Specifically, 49 percent of all white families reported an income of under $10,000, while 75 percent of black and other minority families belonged to this income level.[2]

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[1] "Barriers to participation In Minority Group Participation in Graduate Education." Report of National Board on Graduate Education, Washington, D.C. June 1976, p. 87–99. Watson, J. W. Some General Proposals for Increasing the Production of Minority Professionals in the Basic Sciences in Melnick, and Hamilton, F.D. (Ed) "Minorities in Science : A challenge for change in Biomedicine," Plenum Press, N.Y. 1977 p. 93–105.

[2] U.S. Bureau of the Census, Statistical Abstract of the United States, 1973 (94th Ed). Washington, D.C. 1973, p. 328.

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If we examine the income level of students attending medical school, it shows that a large majority come from high-income families, and those from low-income families are severely scarce.[3]

In my own experience, Mr. Chairman, I have found that many of my students have to struggle several times harder than the typical undergraduate student, because they lack the academic preparation that they should have received during their secondary school years.

The reason being that they simply have not been exposed to certain information and have not been counseled to take the appropriate courses. In fact, every often I find the opposite had occurred, so much so, it reflects on the student's reading and comprehension ability, writing skills and mathematics and science background.

All these have to be made up during the undergraduate years, if they are to successfully compete for graduate programs in the biomedical sciences and entry into health professional schools.

In light of the tremendous academic handicaps to be overcome, coupled with severe financial odds, the student who succeeds does so through sheer force of motivation, determination, very had work and great personal sacrifice. The number of such students in any group will be low.

This legislation seeks to reduce some of these handicaps, increase information and exposure to the biomedical field and encourage talented students to seek careers in the health and life sciences.

I can without hesitation state, Mr. Chairman, that many of my students would have profited greatly, had they the opportunity to participate in such a program during their high school years, and that their undergraduate life would have been that much easier.

When students, who lack sufficient academic preparation due to reasons of economic and/or educational disadvantage are exposed to special programs[4] that are carefully planned and carried out, it has been shown consistently that they significantly improve their academic skills and capabilities.

Special enrichment programs in mathematics and science also have been shown to have a highly motivating and college orienting effect on students. Not surprisingly, students respond to opportunity.

H.R. 10736 provides financial assistance through grants or contracts to institutions of higher learning to establish projects that will encourage secondary school students from disadvantaged backgrounds to pursue careers in the biomedical professions.

The participating institutions will offer innovative and stimulating programs to enrich the academic abilities of deserving students by specifically focusing on enhancing basic skills such as reading, writing, mathematics, and including scientific methodology and laboratory, and clinical experience.

Studies have shown that exposure to university and clinical settings, direct interaction with scientists and physicians actively in-

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[3] Report of the Committee on Interstate and Foreign Commerce Health Manpower Act of 1975, U.S. Government Printing Office, Washington, D.C. 1975, p. 62.

[4] Many such programs are described in Melnick, V.L. and Hamilton, F.D. (Ed) "Minorities in Science: A challenge for change in Biomedicine," Plenum Press N.Y., 1977. See Chapters on Special Training Programs for Minority Students in Science: College Level and Pre College Level, pp. 211–280.

volved in research and/or medical practice significantly motivates, stimulates, and encourages young students who otherwise may not have been so inclined.

It is also known that the most effective approach is one that involves the teacher, the parent, and the community in which the student resides.

If properly conducted, the project will bring a constellation of resources to the student, will provide the student with a wide spectrum of choices within the biomedical professions, will ease the transition between the secondary school, undergraduate school and graduate biomedical programs. These, in turn, will serve to increase the self-confidence and self-worth of the student.

Of equal importance is the fact that the program will initiate, establish, and nurture a close relationship between the institution of higher education and the public schools. This will stimulate the awareness of these institutions to the responsibilities that they have to the communities that they are located in.

It is not uncommon for such institutions to be blissfully unaware of the real problems, concerns and needs of those in their own communities. The project will provoke and challenge these institutions to seek innovative and creative ways to reach, educate, and sustain the interest of young students who have limited educational experience and come from families with little or no professional background. It will thus improve the educational capabilities and awareness of social responsibilities of these institutions, no mean accomplishment in its own right.

Therefore, the bill while seeming to be for the benefit of the economically disadvantaged students is, in a much broader sense, to the advantage of the country as a whole which has not fully tapped the talent and resources of all her people.

Mr. Chairman, it is true that scientific progress is encouraged by providing adequate research laboratories and equipment, that medical progress is enhanced by the building of hospitals and the support of medical schools. But, Mr. Chairman, I do not have to point out to you that the basic resource in the scientific and medical area are the minds of the scientists and doctors. By not fully utilizing the talents of people from all segments of our society, we are indeed making ourselves into a disadvantaged nation.

Mr. Chairman, H.R. 10736 lays out a program which will insure that the nation will not continue to be deprived at least in the fields of biology and medicine, of the talents and contributions of a group of citizens, merely because they were not economically blessed. I strongly urge the subcommittee to favorably report out H.R. 10736.

I will be happy to answer any questions. Thank you.

Mr. KILDEE. Thank you very much, Dr. Melnick, for your excellent testimony. I want to thank you, particularly, for drawing our attention to the "bio" component of this bill. Many of our medical discoveries have been made by biologists. I think their role is essential.

Thank you very much.

I am going to run over to the House. I have a little speech that I have to give, and I will be right back. Our ranking minority member, Mr. Buchanan, will take over in the meantime.

Our next witness will be Dr. Alice Miller, Director of the PREP program, Bernard College.

Dr. MILLER. I have asked my codirector, Dr. Andre Broussard, to make the presentation.

Mr. KILDEE. Thank you very much, and I will be right back.

STATEMENT OF ANDRE BROUSSARD, CODIRECTOR PREP, ACCOMPANIED BY ALICE MILLER, CODIRECTOR PREP, BARNARD COLLEGE

Dr. BROUSSARD. Thank you, Mr. Chairman. I speak to you as a codirector of the Premedical Research and Education Program, the PREP program. The PREP program was developed in 1968–69 to increase the number of qualified minority medical students, and eventually the number of minority physicians.

In the interest of time, I am going to give you a capsulized summary of what our statistics show. One thing that has not been pointed out is that at the current rate that black physicians—I will use that group, and I recognize that there are other minority groups that are equally disadvantaged—at the rate that black physicians are being graduted from medical schools, the rate is not sufficient to replace the numbers of black physicians who are retiring.

I would also like to point out that people have always spoken about the increases in the numbers of places in medical schools, and I have the numbers here. But I would also like to point out that the numbers show that the beneficiaries of the increases have been primarily the majority students.

In recent years competition for medical school admission has intensified. The medical schools are selecting increasingly larger numbers of students with stronger academic credentials in the sciences and mathematics at the very time when public education is in crisis.

In 1955–56, there were 14,937 applicants for 7,686 places in United States medical schools. In 1976–77, there were 42,155 applicants for 15,667 first year places in American medical schools—roughly a rate of acceptance in 1955–56 of one-half and in 1976–77 of one third of the applicant pool.

Since 1965, the proportion of students admitted to medical school with a grade point average of A has gone from 12.7 percent of the first year class to 46 percent of the first year class. During those same years, the number of students accepted into the first year class with a B average has gone from 76.7 percent to 47.3 percent.

In those same years, the mean medical college admission test scores have risen in quantitative ability from 585 to 633 and in science from 549 to 618. And in those same years, the gap in preparation between students educated in urban and suburban schools has widened. The same pattern applies to students educated in poor rural contrasted with suburban areas.

Thus, current medical school admission criteria would tend to make competition ever more difficult for minority students. Assistance must be offered so that significant numbers of minority students can compete successfully for admission to medical school.

One way to provide assistance is to intervene in the early education—junior and senior high school—of young minority students. PREP has developed a model of early motivation intervention starting in the 10th grade of high school. Students are selected from New York City public high schools on the basis of academic aptitude; they work in medical student teaching laboratories at the Mount Sinai School of Medicine and Columbia College of Physicians and Surgeons, on Saturdays, under the preceptorship of first and second year medical students.

The medical students are chosen on the basis of their knowledge of the biomedical science course they wish to teach, their enthusiasm and interest in the subject and their ability to teach. The medical students develop a full 13-week course outline and course description.

A catalog of courses is offered to the PREP high school students. They select a class which meets each Saturday for 3 hours. During class, the high school students work in a laboratory with 7 to 10 other students all of whom learn to use the sophisticated instrumentation available in medical school.

Summers, during high school, the PREP students work in community placements in health centers, hospitals and group practices in New York City. While they may not participate in direct patient care, there are many projects which they can undertake which provide community service.

Awareness of community needs and the way in which physicians can meet some of these community needs is an essential part of the education which the students receive while they are in high school.

During their senior year of high school, PREP provides intensive college counseling. The students are given information on the scholastic aptitude tests and achievement tests which are required by most colleges.

The summer after high school graduation, the PREP students are joined by precollege minority premedical students from all over the country who participate in a residential program located at Barnard College.

The purpose of this 6-week program is to provide premedical students with an intensive, preparatory course in calculus and chemistry geared to college level content and volume of work. Calculus and chemistry are a major stumbling block for many minority premedical students.

The high schools the students attend all over the country do not provide adequate preparation for a college-level premedical curriculum—and especially when the minority students must compete with students educated in affluent suburban schools.

In addition to course work, the students have the opportunity to participate in discussions with minority physicians from all over the country.

After the students leave the precollege summer preparatory program, the kinds of assistance they receive are decided by their individual colleges. However, PREP has developed two new program components. One is the junior high school program in which we will attempt to motivate and educate younger students in the New York City public school system before they develop a sense of fail-

ure. These students must be encouraged to obtain the best education possible.

On the college level, it is important to provide counseling and educational services to students on their college campuses. It is particularly important for colleges in the same geographical area to share the experiences that they may have had in helping to educate minority premedical students. The kinds of assistance planned for incorporation in the consortium of Eastern colleges which PREP has developed are curriculum counseling; tutorial services; summer job development; and medical school counseling. Cooperative efforts among colleges have been planned.

What do we see for the future in terms of motivation, education, and recruitment of additional numbers of minority medical students?

I urge that we address ourselves to the needs of minority students. I urge this committee to substitute in the intent and wording of the legislation, "minority" for "disadvantaged." I urge this because of the evidence available concerning levels of achievement related to income on the part of majority students.

Recent research reported by the Association of American Medical Colleges indicates that race is the superseding factor in determining relative academic success. A comparison of the academic accomplishments of all 1976–77 first year medical school applicants and acceptees, found that minority students performed less well than white students despite comparatively lower or higher income levels.

The following is a conclusion from the "Journal of Medical Education," December 1977:

> Lower income applicants as a class are not educationally disadvantaged in applying for admission to medical school, while applicants from under-represented minority groups are disadvantaged by factors, extending beyond economics, which leads to a lower level of performance.

I urge an extended commitment. When we, at PREP, begin to work with a student in the 10th grade, we must plan to aid that student for 7 years before he or she enters medical school. We are talking about a process which takes at least 6 to 7 years before we know that a student is definitely on the road to becoming a physician. If we identify that student in the 9th or 10th grade level of high school.

An enormous amount of patience is required by institutions which support such programs. They will not see results in a year or two. Therefore, funding for such long-term efforts is fragmented, when it exists.

PREP has been most fortunate in obtaining private foundation support over the past 9 years. This is attributable to the devotion and dedication to the ideals of access to medical education for minority students on the part of Mr. Andrew Heineman, precident of the Ernest and Mary Hawyard Weir Foundation. Other foundations, including the Andrew W. Mellon Foundation and the Alfred P. Sloan Foundation, have joined in supporting PREP.

We believe that the successes of PREP students are impressive. A preliminary analysis of 301 PREP graduates who participated in the precollege summer preparatory program from 1971 to 1973, indicates that at least 42 percent have applied to medical schools, and of the known applicants, 77 percent were admitted.

This compares more than favorably with figures released by the Association of American Medical Colleges. For 1975–76, the year in which PREP's 1971 summer program participants would have been expected to enter medical school, the AAMC reported that 36.3 percent of all applicants and 41.3 percent of black applicants were accepted. For PREP 1971 summer program graduates known to have applied to medical school in 1975, the proportion of acceptance was 69.8 percent.

The most impressive record of pre-medical school performance, however, is that of the 43 PREP students who participated in both the academic year and precollege summer preparatory programs, thus availing themselves of all of PREP's services.

A total of 51.2 percent of the first 3-year students in this group, from 1971 to 1973, have applied to medical school. Of this 51.2 percent, 77.3 percent were admitted to medical school. These numbers reflect 122 students attending 47 medical schools in 26 States, and four students in three foreign medical schools.

I cannot urge you strongly enough to undertake the support of significant numbers of these young minority men and women who wish to become physicians.

Thank you.

[The prepared statement of Andre Broussard follows:]

PREPARED TESTIMONY OF ANDRE BROUSSARD, M.D., CO-DIRECTOR, PREP AND ALICE MILLER, CO-DIRECTOR, PREP

Mr. Chairman, I speak to you as a Co-Director of the Pre-medical Research and Education Program, PREP. The Pre-medical Research and Education Program was developed in 1968-1969 to increase the number of qualified minority medical students.

In 1968-1969, 782 Black students were attending all four years in the 99 United States medical schools. Four-hundred-ninety-one of those students were attending Howard and Meharry Schools of Medicine. Only 291 Black students attended the predominantly white medical schools. The number of minority students other than Blacks was negligible ten years ago. At approximately this period, out of 280,929 physicians in the United States, 6,106 were Black physicians, by far the single largest group of minority doctors. A large number of these physicians were approaching retirement age.

Since 1968 the number of first year medical school places has increased by 58.8 percent from 9,863 to 15,667 in 1976. The beneficiaries of this increase have been primarily majority students. First year minority medical students enrollment increased from 292 in 1968 to 1,291 in 1976. Majority student enrollment increased from 9,571 to 14,376 in the same years.

In recent years, competition for medical school admission has intensified. The medical schools are selecting increasingly larger numbers of students with stronger academic credentials in the sciences and mathematics at the very time when public education is in crisis.

In 1955-1956, there were 14,937 applicants for 7,686 places in United States medical schools. In 1976-1977, there were 42,155 applicants for 15,667 first year places in American medical schools -- roughly a rate of acceptance in 1955-1956 of one-half and in 1976-1977 of one-third of the applicant pool. Since 1965, the proportion of students admitted to medical school with a grade point average of A has gone from 12.7 percent of the first year class to 46 percent of the first year class. During those same years, the number of students accepted into the first year class with a B average has gone from 76.7 percent 47.3 percent. In those same years, the mean medical college admission test scores have risen in quantitative ability from 585 to 633 and in science from 549 to 618. And in those same years, the gap in preparation between students educated in urban and suburban schools has widened. The same pattern applies to students educated in poor rural contrasted with suburban areas. Thus, current medical school admission criteria would tend to make competition ever more difficult for minority students. Assistance must be offered so that significant numbers of minority students can compete successfully for admission to medical school.

One way to provide assistance is to intervene in the early education --- junior and senior high school --- of young minority students.

PREP has developed a model of early motivational intervention starting in the tenth grade of high school. Students are selected from New York City public high schools on the basis of academic aptitude; they work in medical student teaching laboratories at the Mount Sinai School of Medicine and Columbia College of Physicians and Surgeons, on Saturdays, under the preceptorship of first and second year medical students. The medical students are chosen on the basis of their knowledge of the biomedical science course they wish to teach, their enthusiasm and interest in the subject and their ability to teach. The medical students develop a full 13-week course outline and course description. A catalog of courses is offered to the PREP high school students. They select a class which meets each Saturday for three hours. During class, the high school students work in a laboratory with seven to ten other students all of whom learn to use the sophisticated instrumentation available in medical school.

Summers, during high school, the PREP students work in community placements in health centers, hospitals and group practices in New York City. While they may not participate in direct patient care, there are many projects which they can undertake which provide community service. Awareness of community needs and the way in which physicians can meet some of these community needs is an essential part of the education which the students receive while they are in high school.

During their senior year of high school, PREP provides intensive college counseling. The students are given information on the scholastic aptitude tests and achievement tests which are required by most colleges. The summer after high school graduation, the PREP students are joined by pre-college minority pre-medical students from all over the country who participate in a residential program located at Barnard College. The purpose of this six-week program is to provide pre-medical students with an intensive, preparatory course in calculus and chemistry geared to college-level content and volume of work. Calculus and chemistry are a major stumbling block for many minority pre-medical students. The high schools the students attend all over the country do not provide adequate preparation for a college-level pre medical curriculum --- and especially when the minority students must compete with students educated in affluent suburban schools. In addition to course work, the students have the opportunity to participate in discussions with minority physicians from all over the country.

After the students leave the Pre-College Summer Preparatory Program, the kinds of assistance they receive are decided by their individual colleges. However, PREP has developed two new program components. One is the junior high school program in which we will attempt to motivate and educate younger students in the New York City public school system before they develop a sense of failure. These students must be encouraged to obtain the best education possible.

On the college level, it is important to provide counseling and educational services to students on their college campuses. It is particularly important for colleges in the same geographical area to share the experiences that they may have had in helping to educate minority pre-medical students. The kinds of assistance planned for incorporation in the consortium of Eastern colleges which PREP has developed are curriculum counseling; tutorial services; summer job development; and medical school counseling. Cooperative efforts among colleges have been planned.

What do we see for the future in terms of the motivation, education, and recruitment of additional numbers of minority medical students? I urge that we address ourselves to the needs of minority students. I urge this committee to substitute in the intent and wording of the legislation, "minority" for "disadvantaged." I urge this because of the evidence available concerning levels of achievement related to income on the part of majority students. Recent research reported by the Association of American Medical Colleges indicates that race is the superseding factor in determining relative academic success. A comparison of the academic accomplishments of all 1976-1977 first year medical school applicants and acceptees, found that minority students performed less well than white students despite comparatively lower or higher income levels.

The following is a conclusion from The Journal of Medical Education, December, 1977:

> "....lower income applicants as a class are not educationally disadvantaged in applying for admission to medical school, while applicants from under-represented minority groups are disadvantaged by factors, extending beyond economics, which lead to a lower level of performance...."

I urge an extended commitment. When we at PREP begin to work with a student in the 10th grade, we must plan to aid that student for seven years before he/she enters medical school. We are talking about a process which takes at least six to seven years before we know that a student is definitely on the road to becoming a physician --- if we identify that student in the ninth or tenth grade level of high school. An enormous amount of patience is required by institutions which support such programs. They will not see results in a year or two. Therefore, funding for such long-term efforts is fragmented, when it exists. PREP has been most fortunate in obtaining private foundation support over the past nine years. This is attributable to the devotion and dedication to the ideals of access to medical education for minority students on the part of Mr. Andrew Heineman, President of the Ernest and Mary Hayward Weir Foundation.

Other foundations, including The Andrew W. Mellon Foundation and the Alfred P. Sloan Foundation, have joined in supporting PREP.

We believe that the successes of PREP students are impressive: a preliminary analysis of 301 PREP graduates who participated in the Pre-College Summer Preparatory Program from 1971-1973, indicates that at least 42 percent have applied to medical schools, and of the known applicants, 77 percent were admitted. This compares more than favorably with figures released by the Association of American Medical Colleges. For 1975-1976, the year in which PREP's 1971 summer program participants would have been expected to enter medical school, the AAMC reported that 36.3 percent of all applicants and 41.3 percent of Black applicants were accepted. For PREP 1971 summer program graduates known to have applied to medical school in 1975, the proportion of acceptances was 69.8 percent.

The most impressive record of pre-medical school performance, however, is that of the 43 PREP students who participated in both the academic year and pre-college summer preparatory programs, thus availing themselves of all of PREP's services. A total of 51.2 percent of the first three year's students in this group, from 1971 to 1973, have applied to medical school. Of this 51.2 percent, 77.3 percent were admitted to medical school.

These numbers reflect 122 students attending 47 medical schools in 26 states, and four students in 3 foreign medical schools.

I cannot urge you strongly enough to undertake the support of significant numbers of these young minority men and women who wish to become physicians.

Mr. BUCHANAN. Thank you very much. Let me commend you not only for your testimony, but the program itself. It makes a good argument for the proposed legislation.

Does this really need to be a special program? There are 130 programs administered by the Office of Education, and there is some opposition to the addition of new programs. HEW has asked in its Education Quality Act proposal for new authorities to which this might be added as a part of that package. I wonder if you could comment on the need to have this as a new category.

Dr. HOYTE. I believe it does, and primarily for the following reasons:

First. If you run a program like the one we are talking about right now, it would be difficult, if not impossible, to find funds and resources to support the program. If it were not for the existence of the program right now in the Public Health Service, which is called health careers opportunity program, and because of the many pressures this program has on its resources—the problem is that the small amount of money, $14 million for that entire program.

Again, in terms of the perspective that I tried to present, and maybe I did not present it clearly enough, I guess I have been trying to say that I see this bill, and I think that many of us see this bill not only as getting more doctors and biomedical scientists, but clearly what doctors do best, and what other health professionals do best is relieve suffering and pain. They do not cure much, and they do not prevent much.

If you look at statistics in terms of morbidity data, life expectancy rates, you find very clearly those individuals that are able to gain access to environments that are safe, to nutritious foods, or have hope enough to want to adopt good behavior or safe behavior patterns—the best example would be a pregnant girl.

I think that most pregnant girls realize that it is not best for their overall life to get pregnant early, but they have nothing much more to look for.

I think that most drug addicts realize that it is not good for their health, but their life is so hopeless.

You need to develop some programs that will impact on large numbers of students. In this bill, if you reflect on it, it says, you have to take a minimum of 100 graduates. It is a longitudinal program which is really geared toward nurturing as well as cultivating the basic skills.

If I go back to the PREP program, I see all the ingredients that I am talking about in this program. First of all, they found an institution that wanted to use its leverage, its capability to mobilize other types of resources, foundations, and others, to give this type of exposure and experience.

The second thing that they mention is that 40 to 50 percent, and that is a large number, that went into the medical profession. I maintain that if they were to look closely at the vast majority of those students, they will have access to jobs. They will have had their basic skills nurtured and cultivated to the point that they can get jobs.

That is my personal feeling. I am not all that interested in all of the students becoming doctors or nurses, even though I know that

there is a need for more doctors. I am interested in the student getting focused on something, and getting his skills developed to the point where he or she will be competitive for a job.

I find it very difficult to find existing programs that are geared toward trying to assist an institution to mobilize the resources necessary. I am not saying that it is impossible for that to be done, but I don't think that it can easily be done.

I have been meeting with representatives of Mr. Califano and others who have been trying to assist me to identify how that can be done—even the Assistant Secretary of Education. They have looked through all their programs. When they call they say: "Dr. Hoyte, you have to meet criteria a, b, c, and d." It is sort of restrictive.

Mr. BUCHANAN. Does anyone else want to comment on that?

Dr. MELNICK. I would like to make one comment. I think that we have to keep in mind the focus of this particular bill, and see that we do not diffuse that purpose. The purpose is for biomedical education and to obtain a large number of students in a pool who will be competitive and who will be talented, and encouraged to enter those positions.

I would not expect this to cure all the ills and social needs, and the amount of appropriations for this bill are hardly the kind of amounts that will. This is simply to try to attack a very small problem. I think that we have to make sure that we keep that focus.

Mr. BUCHANAN. Before we ask any further questions, we will be pleased to hear from Dr. Chalmers.

STATEMENT OF THOMAS CHALMERS, DEAN, MOUNT SINAI SCHOOL OF MEDICINE

Dr. CHALMERS. I am very pleased to appear before you today in support of H.R. 10736. I appear as the president of a medical center whose 30,000 inpatients and 69,000 outpatients are approximately 50 percent black and Puerto Rican, and whose physicians are 99 percent white.

The reason for this marked discrepancy is the striking shortage of minority physicians qualifying for our staff. The competition is fierce for the small number of applicants available. The pool must be enlarged.

In the medical school of which I am dean, because we have a program for educationally disadvantaged students, we accept and graduate around 10 minority students each year. We would like to have more minority representation in our student body as well as our faculty. We owe it to the community.

We cannot fulfill that desire because the pool of eligibles is so small. Yet Mount Sinai has a higher percentage of minority students than the average of the rest of the schools in the United States.

The average percentage of minority students graduating from a medical school is still far less than the average minority representation in the country's population. So the problem is nationwide.

Since its inception the Mount Sinai School of Medicine has had a high school program aimed at increasing the pool of minority ap-

plicants for health care jobs. Called SETH—secondary education through health—this program has broadened the education of students selected in one inner-city high school because they seemed capable but lacked motivation.

They spend part of their second and third years and all of their senior year at Mount Sinai. A gratifying percentage go on to college, but few of this group have accomplished enough to gain entrance to medical school.

Because we are primarily concerned with producing physicians, we were glad to embrace the PREP—premedical research and education program—last year. As you will see, it is a highly successful program in producing minority applicants for medical school admission.

Speaking as a former president of the Associated Medical School Deans of New York, I can assure you that all of our New York medical schools would accept more minority applicants if there were more qualified students in the pool. The majority of bright minority students have not been exposed to a good enough high school education to enable them to obtain high enough science grades in college to qualify them for acceptance by medical schools.

PREP is overcoming this deficiency for around 100 high school students in New York each year. But the program costs money and requires Federal support in the form of grants, if it is to continue in New York and to be expanded to the rest of the country.

Consider the following figures: 12,985 caucasian students were accepted in 1975 for medical schools out of a national applicant pool of 34,868, an acceptance rate of 37.2 percent. 1,308 under-represented minority applicants were accepted out of a pool of 3,042, an acceptance rate of 43 percent.

The PREP program has only been going long enough for two classes of high school graduates to have qualified for admission. Of those taking both the academic year and summer programs, the acceptance rate is 77 percent, appreciably higher than that of either majority or minority students throughout the country.

Is that record due to the superior education these students receive, or is it a reflection of selection of the best students for the PREP program, students who might have done just as well without the special schooling, because of their innate abilities?

Separating out the effects of selection from those of education after selection is as difficult a problem in education as it is in the medical care. The final answer can only come from a randomized control trial, or even rarer event in education than it is in patient care.

Whether or not the efficacy of PREP can be proven beyond a doubt, something which can be said of no other educational program, by the way, it is the impression of our faculty that PREP is increasing the pool of minority applicants from which we can select students who will not need remedial training to get by. In other words, PREP allows the minority applicant to qualify for admission to medical school on a purely competitive basis.

No matter what the decision of the Supreme Court on the Bakke case, the ideal we are all after is the graduation of more minority

physicians who have qualified competitively for admission. Because the blacks, Hispanic Americans and American Indians are educationally disadvantaged, there must be some extra effort made to help them qualify for medical school.

High school, even junior high, is the time to identify the gifted students and to help them to compete with the more advantaged whites. The PREP program does this for premedical students. It should be well supported by the Federal Government and should be replicated in other areas of the country.

At the same time, better support of programs for the less gifted students, modeled after Mount Sinai's SETH program, would enable more minority students to be motivated toward paramedical positions.

We graduate about 10 of those each year. Incidentally, I have some figures here on what has happened to the first one, and where they have settled.

Out of the 200 students that we have kept in touch with, who have gone into primary care fields, 191 nonminority and 16 minority, 61 percent of the whites have located in the metropolitan area, and 64 percent of the minorities have located in the metropolitan area. We don't know what part of the metropolitan area. We don't know whether it is Park Avenue North or South. It is not in these data, but we probably could find out.

These figures are early because the school has only been in existence for a short time.

In summary, I want to urge this bill, both to enable us to continue to support our SETH program, which is pretty much foundation support and has been running from year to year, and also to enable the PREP program, and programs like it, to make available to Mt. Sinai a much larger pool of able, and educated disadvantaged students.

Mr. BUCHANAN. The second bells have just sounded for a recorded vote on the floor of the House. It will be necessary for us to recess briefly. We can resume at 11:30.

I don't want to detain the panel. If you want to stay and discuss this further, that is fine.

We have one more panel, so perhaps I should release you. Before I do, I would like to thank you for your testimony. I hope that this may be one program that we can sell. I don't know. As I mentioned before, there are 130 categorical programs, so the bureaucracy tends to resist when we add another.

But, given the case you have made regarding how this program could help to solve a very grave health problem in the cities and rural areas that do not have adequate doctors, plus assist our society in increasing percentage of minorities as well as women in such professions as medicine and biology, I think that we may be successful in our efforts. We shall certainly try.

Thank you.

If the second panel would be patient, I will be back in 10 minutes.

[Temporary recess.]

Mr. KILDEE. I think that we will start again. This was a record vote.

The next panel, if they will come forward, consists of Mr. Michael Butler, medical student at Tulane University; Mr. Charles Smith, M.D. Ph D. student, Albert Einstein Medical School; Ms. Yvonne Gomez, premedical student, Princeton University; and Ms. Linda Hotchkiss, medical student, Harvard School of Medicine.

We welcome you here, this morning. Shall we go in the sequence in which I have read the names, or do you have another sequence preferred?

If you will please give your name to the committee, before you address your remarks.

STATEMENT OF CHARLES SMITH, M.D., PH. D. STUDENT, ALBERT EINSTEIN MEDICAL SCHOOL

Mr. SMITH. Mr. Chairman, I would like to begin by explaining to you that each of us sitting here has been extensively involved with the PREP program, and different aspects of the program.

Just to reiterate and give you a brief overview as to what Dr. Broussard mentioned about the program. The PREP program basically consists of two components. The first component is the year-around component. This is a component in which the high school students participate inside the laboratory classes and the biomedical classes, which are classes taught by first year medical students.

The other is a summer component, which consists basically of two areas, either the community internships that the high school students are involved in, or summer transitional programs for students who have finished the 12th grade, and are on their way to college.

My participation in PREP has been from the time that I was a high school student. I was involved in the year-around program. I was involved in the biomedical internship for high school students. I was involved in the summer transitional program.

My participation in PREP has been ongoing throughout college and now that I am in medical school, I have returned to New York City, where I went to school, to go to medical school, and I have continued my participation in PREP in both the interviewing of new applicants for the year-around program and the instruction of programs as a medical student preceptor.

The part of the program that I would like to address, and that I would like to call your attention to is basically how we select our students for the year-around program participation.

What we look for in high school students—there are three things that we require of all our applicants. The first is, we ask to see a high school transcript, and most importantly in this high school transcript, we ask for some evidence of performance which would include citywide and statewide exams, and not just necessarily the grades or the marks that the student received in school. We have found tremendous variations, especially in school districts where the schools predominantly consist of minority students. Therefore, we have to have some kind of normalizing factor. We use the statewide examination results as this factor.

The second thing we require is a personal essay. We ask the student to verbalize why he or she wishes to become a physician, and to put this in written form.

The final thing that we ask of our applicants is a personal interview. What we look for in a candidate is evidence of superior academic performance or the promise of such performance which has been unrealized due to other extenuating circumstances.

This type of performance criteria that we ask for, an 85 or better high school average. This changes from school to school. Occasionally you will get a student who has a 90 average, who has not passed the statewide examination. This happens in some of our New York City public high schools.

We look at these grades, and we ask for 80 or better as far as citywide and statewide exams. But more importantly, there is the personal interview, and in this personal interview we ask the student to express his or her desire to become a physician. We try to assess the extent to which this desire exists within the student.

The types of things that we look for, we want to know how deeply the student has investigated medicine as a career. We look for alternate career choices. What are the levels of aspirations of the student.

An example of this is, occasionally we will have a student, and we will ask: "If you could not become a physician, what alternate career would you choose?"

As an interviewer, I look for a student whose alternate career choice would be something that is as ambitious as becoming a physician. The type of thing that I am very afraid of, when a student says: "Well, if I can't become a doctor, I would like to become a nurse."

This would indicate to our program aides, who are primarily interested in finding disadvantaged students who want to become physicians, if the person has an alternate career choice, such as becoming a nurse when in fact they want to become a doctor, at the first obstacle, the first real test, it would be very easy for the student to take the alternate choice, as opposed to really gear down to the hard work that is required to become a physician.

What we find is when the desire is high, and when the academic capability is present, the students can quite favorably respond to what we provide in the Saturday-component as well as the other component.

My course that I teach at PREP is a course in pharmacology. I present this course at a level which is suitable for advanced college students, and even medical students. The students respond to this quite favorably. They pick up on the material. They know what I am talking about, and they respond to the challenge, the academic challenge that they do not receive in high school.

I try and carry over in my course the academic challenge that I give to the students on Saturday, to try and get them to take this type of approach to their school work and their day-to-day studying. That is, to urge the student to work harder than he or she is currently working in order that when they get to a very competitive 4-year college, they will be able to successfully compete with the stu-

dents who have been educated in more affluent suburban high schools.

I would like to put a personal note in the program, since I was a student in the program. There is a question of what this means to a student who gets into a program like this.

If the student is academically capable, and has a high desire to achieve, a minority student particularly, then why does the student need such a program?

What I would say is that, there are problems that a student can face, even if the student has the capability to do a particular thing such as becoming a physician. For example, lack of guidance, lack of proper guidance, as was alluded to earlier by Congresswoman Chisholm, lack of the appropriate courses to be offered in the schools.

These types of things we know, and we identify for our students, and try to direct them in the proper direction. Where we find deficiencies, we try to correct the deficiencies by tutorial means and other means. Where we find a student had some particular difficulty, either economic, the student needs a job and this would somehow prevent him from pursuing his educational career, we try to intercede in such a way that the student can successfully cope with the problem and continue to pursue a premedical career.

We do this in the hope—there are few instances where students in high school are both academically suitable and still desire to pursue a career in medicine, we do not want to see any of them lost due to some extenuating circumstances which are preventable.

Now I would like to, at this time, turn over and let you listen to a student who will tell you about the Saturday laboratory classes. This is a year-around component of the program. This will be from the point of view of a person who is on the receiving end of the preceptorial program.

STATEMENT OF YVONNE GOMEZ, PRE-MEDICAL STUDENT, PRINCETON UNIVERSITY

Ms. GOMEZ. My name is Yvonne Gomez. I am currently a premedical junior at Princeton University. The Saturday program consists of 13-week courses taught by first- and second-year medical students every Saturday. There are two 3-hour sessions, the times being 9 a.m. to 12 p.m. and 1 p.m. to 4 pm.

The student has the choice of whether he or she wants the course that is offered during the morning or afternoon session. There have been times when a highly motivated student who can afford the time has taken courses both in the morning and afternoon during this 13-week session.

The program covers quite an in-depth coverage of subjects ranging from basic chemistry to topics such as pathology. To assure the quality of those courses, each has an approximate enrollment of 8 to 10 students.

During my 2 years on the Saturday lab program, I took four courses, which were titled "Human Physiology," "Pathology," "Anatomy," and "Immunology." Not only was the subject matter valuable and interesting, I found this aspect of PREP particularly helpful because, primarily, the teaching medical students, who are not that far removed from their high school and college days, were

overly willing to share their feelings and experiences about being premed and to relate to the students so many aspects of various fields of medicine.

Second, PREP students benefit tremendously from the highly individualized attention, which students rarely get in New York public high school laboratories, where you have 35 to 40 students in one laboratory with one instructor.

Third, the advanced quality of both equipment and teaching techniques most certainly helps to instill pride and motivation in what we premedical students are involved in.

During the school year the Saturday lab program certainly places an emphasis on academically stimulating its students. Many PREP students like myself have a great need to delve into something more than the purely academic aspect of medicine.

We have a need to work with health professionals and people of our community in an attempt to begin fulfilling our responsibility to our communities and ourselves. PREP helps students by finding them placements in the summer in community projects, such as in clinics.

For example, during my PREP years I have worked in two sites in Harlem. The first site was a family care clinic, where I encountered three distinct aspects of health care. First, working with several pediatricians, observing and then actively taking part in the physical examination of the patients.

I am now much more aware of the doctor's role in primary health care.

Second, by working with those people behind the scene, the lab technicians, I now realize the invaluable service they provide to physicians.

During this exposure I learned how to draw blood and perform tests such as urine analysis, pregnancy testing, and a test known as electroferisis, used for the detection of sickle cell anemia.

Finally, by working with a cardiac unit I learned to both administer and read EKG's.

These experiences just related to you have surely increased and further strengthen my interest in medicine.

The second site was St. Luke's Hospital where I worked with the director of pediatrics, Dr. Doris Weathers. My association with her, and her dynamic interest in sickle cell anemia, have created a similar interest in myself. I do plan to continue to study this area of medicine.

In summary, PREP provides a nice balance of stressing academic achievements, but also by urging the students to apply their acquired skills in the community. I believe that a strengthening of our responsibility to our community is essential.

Now, as the student successfully reaches the end of his or her high school career, he or she enters another aspect of PREP. This will be described to you by Mike Butler.

STATEMENT OF MICHAEL BUTLER, MEDICAL STUDENT, TULANE UNIVERSITY

Mr. BUTLER. My name is Mike Butler, and I was a participant in a PREP summer program in 1972, and I have served as a member of the PREP council since 1976 and 1977.

To understand the significance of PREP and its potential value to students not unlike myself, it is crucial to get a glimpse of my own background. I was really kind of touched with Congressman Pepper's description, because the times are not so far removed that I cannot remember when we had to do things such as exercising to keep warm because the heating in our classroom was pretty bad. I think that other people in other parts of the Nation have gotten a little taste of that lately, too.

I grew up in a small town in Louisiana which is not known as an educational mecca, and probably would not be known at all with the exception of the Long family, which lived about 20 miles away. People know approximately where that is from there.

My high school record was a fairly good one. I had a GP of about 3.96, and pretty good test scores. My own opinion notwithstanding, it was good enough for Amherst to admit me, and this was one of the most highly competitive schools in the country.

On the surface it would seem to be that a good student, with a good background, selected by a good school, should have little or no trouble pursuing any goal that he should want, particularly in medicine.

However, this more often is not the case. A crucial piece of data, I think, that we need to look at is primarily the attitude of the students toward college. After doing well in high school, with minimum difficulty, I looked forward to matriculation from Amherst following the same pattern as my high school education, passing from 11 to 12, and after 12 going to grade 13.

PREP was my rude awakening to the fact that college, especially going to college at a competitive eastern school, was going to be very different, and certainly not an ordinary or easy transition.

My rude awakening at PREP can best be described by the great understatement made by Judy Garland as Dorothy in the "Wizard of Oz," after being swept away from her customary surrounding by the cyclone. Dorothy took one step away from her room, looked around and said: "Toto, I don't think that we are in Kansas any more."

To say the least, I was shocked. PREP was a very intense program, where immediately the student from rural northern Louisiana was introduced to New York City. If any one of you have ever gone to Port Authority and 42d Street, and this is your first glimpse of New York City, it is startling.

It was a very intense regimen of 5 hours of classroom instruction in college level math, chemistry, and English. The second day, I remember it very well, because we had 6 hours of preplacement exams.

This was also a time, the longest and farthest away many students had been away from home and thrust into a group of students from very different backgrounds, very different preparation, and very different family lifestyle. This is the kind of cultural shock that most of them will find when they attend college, only more so.

This kind of situation in the PREP program is designed to ease the sort of shock. In fact, my notion of the academic work required in college was corrected. The college material that was impressed on

us in high school was minimal, to say the least. In fact, an assignment that in high school I considered a difficult assignment was one that I could not finish before the bus came in the afternoon to take me home. In PREP, the assignment that I could finish by 12 o'clock was one that I considered very easy.

As a result, my high school skills that were needed to be developed to compete at a highly competitive eastern school were not there. PREP helps its students by providing such study skills, seminars, test taking, essay writing during the summer, so that the students not only have a chance to improve their background in academics, but also to not lose points, and not to fall behind because of their inability to use the knowledge that they do have.

I think that this is important because oftentimes the ability that the students do have, if they cannot get it across, is often missed, or just assumed not to be there altogether. As a matter of fact, many of the skills I learned in PREP, I still use now as a medical student.

It is also the time when the student is adjusted to a dormitory situation. Again, staying in the city, where you contrast just the idea of staying at a place where you have to listen to trucks passing, and hitting things, and so forth. This is a very different environment, and one that requires as much adjustment to as the academic rigors of a college.

The program supplemented its academic part with counseling staff which was manned by medical and premedical students, who were pursuing their goals successfully, and who could serve as very good role models for us. Not only could they serve as a good example, but they could provide much needed insight into what college or the particular school is like.

I think the committee should realize that oftentimes when minority students, you are talking about a situation where not only is it the first time for this individual is going to college, but you are talking about a situation where this is the first person of a generation, or any generation to have seen a college, and maybe to have finished high school. I think that this is an important situation to realize.

The picture that one gets from watching TV, or something of this nature, is vastly different from experiences that one actually has there. I think that PREP provides a very significant aspect in the summertime with regard to the friendship, and the cooperation, and the linkages that are able to be developed between students who are about to enter the college and students who are there.

This is done by providing meetings with various PREP students, who are at the school. They introduce them, we meet them. We discuss what the school is like there. We find out what the social atmosphere is like. We find out about the professors, or courses and living arrangements, and so forth. These are intangibles that you cannot find out from a college catalogue, the things that are important to know but are often left unstated, and the students are left to their own resources, to try and muddle their way and survive there.

I think that this circumvents many of the problems, because oftentimes many of the problems that are so disheartening and

dreadful to college students are such things as: How can I get a job, if I need one? How can I get more money from the school? Things such as that, or things that are much simpler, such as, where can I get a haircut, and where do I find a church, if I want to go to one.

These things, for minority students, are significant problems because most of them are in an environment that is alien to many of them, and oftentimes are hostile, if not surely insensitive to their needs most of the time.

I think that one of the important factors that PREP does in the summertime, in evaluating the student's academic performance, there is individualized counseling concerning the study habits, test taking skills and so forth, so that these things are pointed out and patterns of change are pointed out, so that students can work on these problems before they get to college, and know what sorts of things are helpful to them to do to overcome some of the disadvantages that they have.

Final evaluation, which is discussed with the student, is also sent to the school so that school officials are aware of potential strengths and weaknesses of candidates, so you can avoid potential pitfalls after the student leaves the program.

PREP provides a very important motivational aspect in the sense of many distinguished researchers and practitioners have addressed the students. The students are given an opportunity to visit and work in health care facilities of a variety of types, from neighborhood health care programs, private clinics, prepaid practices, and so forth, all of which continue to kindle the desire to be a physician. Not only to be a physician, but to be a physician that has the interest of the public at heart. I think that this is also very important.

The problems of students who want to pursue a medical course are many, normally. They are varied, and they are tough, and it is a path that is fraught with difficulty, even for the best prepared. The problems of minority students are even more intense, but they are not unsurmountable.

The PREP program, through its multifaceted approach goes a long way toward alleviating many of the problems that you will see in an individual case, by approaching the number of barriers all at once. This is done in a friendly, supportive atmosphere, in such a way that the student can have a way of strengthening themselves, getting oriented, and firming up their background in the situation where the mistakes are not as costly as they are in college.

For instance, when you fail a course in college, it is entered into your record, and it does irrevocable damage if you try to become a physician. I think that this is the kind of thing that PREP allows, a very smooth transition period. Something that is not like high school, but not like college that allows one to develop the kind of skills that are going to be useful later.

I think that it is also important to consider the fact that just as anything, one cannot reap good results by planning helter-skelter, and just doing things in a way, where we just sort of let things spring up.

I think that this program has a very set pattern of services that can be duplicated and can address themselves to the problems that

minority students face. I think that the most important thing about the bill, in my mind, is that it addresses itself to the needs of minority people in the country in terms of their health care.

The health care, in general, of the population in America is something that we are not as pleased with as we would like to be. The health care of minorities, in particular, is one that is almost in certain respects shameful. I think this is important, and it is important for the committee to realize that these students oftentimes, including myself are going to go back to these underserved areas simply because wherever minority students go, there is 9 chances out of 10 that it will be in an underserved area. Minority doctors serve minority patients.

This is very important, and every candidate that is missed is felt by the minority community, and it is paid for in terms of increased morbidity and mortality. People pay for it, literally, with their lives.

I think that this bill is a small chance of multiplying factors which can improve the health and wellbeing of a segment of our population of Americans that need it the most.

Thank you.

Mr. KILDEE. Thank you very much.

Our next witness is Ms. Linda Hotchkiss.

STATEMENT OF LINDA HOTCHKISS, MEDICAL STUDENT, HARVARD SCHOOL OF MEDICINE

Ms. HOTCHKISS. Mr. Chairman, I was a counselor in the summer component of the PREP program in 1972, 1974, and 1975. I am also a product of the Detroit public schools. I entered Radcliffe in 1970, and graduated in 1974. I matriculated at Harvard Medical School in 1974, and I am currently a fourth year medical student.

I am one of the principal premedical advisers at one of the Harvard-Radcliffe colleges, and I have been for three years. I serve as a source role model for many minority students on campus. This year I am also a member of the Harvard Medical School Admissions Committee.

From all of these experiences, I have formed my own perspective on the critical need for increasing the number of viable minority candidates for medical school, and the ways in which we could accomplish this goal.

First, I am frequently in contact with many of the PREP students on campus, primarily acting as a premed advisor and friend. Each year, I have just been impressed by the students' ability to negotiate the difficult and complex premed course seemingly with a greater sense of confidence, and certainty with a greater sense of community support for each other than my peers evidenced when traversing the same waters several years ago.

Quite simply, the minority students who did not attend PREP often express their regrets, as they sit back and subjectively calculate the academic information and the social advantage that the PREP students demonstrate.

Successful application to medical school entails more than just a successful classroom performance. To be truly competitive, it is

necessary for each student, in addition to performing well on an academic level, to acquire a command of the mechanics of the application process as well as knowledge of procedural tactics that will allow the student to present himself, or herself, in the best possible light.

Now, for many reasons, there has existed a positive knowledge in these areas among minority premed that persists even in the most prestigious institutions. One of PREP's primary functions has been to equip students with this information, thus enabling them to maximize their career opportunities.

Second, I am not planning to return to Detroit, after my serious flirtation with East Coast living, and would like to take PREP with me. I have every confidence that the PREP program can be successfully replicated in Detroit, but it cannot be replicated without the support of this legislation.

The politics of health care and medical education differ from city to city, and to institute this kind of program in Detroit would require Federal support. Detroit's population is over 50 percent Black, yet in the 1976–77 school year, Wayne State University's school of medicine had a Black student enrollment of 68 out of a total student enrollment of 1,022.

Several administrators and faculty members at Wayne have informally assured me that they would be most interested in building a program to increase the pool of minority applicants. In addition, medical students and graduate students at the University of Michigan, who are friends of mine, and who went to school with me, have also expressed their desire to participate in such a program.

A responsible administrator with a knowledge of the Detroit school system could, with a commitment from the government for funding, and from the medical school for medical resources, tap the body of potential premed students that currently exists.

Again, I cannot urge you strongly enough to offer some substantive support to the significant numbers of minority students who wish to pursue biomedical careers. At this point, I would like to introduce Robert B. Young, Jr., who has directed the summer internship program at PREP, but who is here today in his capacity as a Harvard College Admissions officer.

After Mr. Young is finished, we will be willing to answer any questions.

Mr. KILDEE. Thank you very much, Ms. Hotchkiss. Let me say at this point that I am happy you are going back to Michigan. When our students go to the East Coast, we often lose them, and I am happy that you will be coming back.

STATEMENT OF ROBERT B. YOUNG, JR., HARVARD COLLEGE ADMISSIONS OFFICER

Mr. YOUNG. Mr. Chairman, as someone who has not got a premed bone in his body, and who is not a doctor, I am something of an interloper here.

I am here today representing Harvard-Radcliffe as an admissions officer, and we at Cambridge have been so strongly impressed with

the performance and type of student that PREP has sent to the college, we felt that it was necessary to come down and both testify and extoll the virtues of the PREP program, and to urge our strongest support for the passage of H.R. 10736.

In an age of galloping functional illiteracy among teenagers in our urban communities, which has been well documented by the Department of HEW, the product of the PREP program who sit before you today, are examples, I think, of a program which has effectively aided students in reaching their full potential.

Certainly, the performance of PREP students on our campus warrants our strong support of this bill. I have, in the course of this year, logged some 20,000 to 25,000 miles traveling across the country from the east coast, and I can say that my experiences in recruiting for Harvard and Radcliffe demonstrate vividly that there are numerous people who are languishing without hope, without ambition, which somehow PREP manages to transcend.

I would again urge Harvard-Radcliffe's strongest support and hope that the committee urges the House to pass the bill.

Mr. KILDEE Thank you very much.

This has been very enlightening to me, and also inspiring, and motivating, when people like Congressman Pepper and Congresswoman Chisholm testified this morning, that renders me pretty prone to further persuasion. But it has been very helpful to me personally to hear from those of you who have been involved in the program, and I appreciate your testimony.

Tell me. Anyone may answer this, or all. Is there any type of Outreach program in the high schools on this PREP program, or how do students become aware of the program?

Mr. BUCHANAN. I wonder if the PREP administrators could rejoin the students at the stand.

Mr. SMITH. As far as the year-around program goes, we rely basically on two mechanisms in getting students to apply to the program.

The first is an informal, and I stress informal, network of guidance counselors throughout the New York City public school system, who are aware of our existence, and who send us the type of students they know we are looking for. We try to identify guidance personnel who are very competent and responsible, and are aware of what we are trying to do.

I stress the word "informal," because dealing with something in the New York City public schools, you will find it almost impossible to set any kind of a formal relationship that will be effective.

Since we have been in business for almost one decade, the principal source of most of our applicants is the word of mouth. One student will tell another student, "I am doing this on Saturday, and it is great."

I see so many students who come to me, and in the interview they tell me, "A friend of mine is in the program, or is applying to the program," that is how they found out about it, and they wanted to apply also.

I think that if a larger effort were developed, and the funds were appropriated to develop a larger effort—we are only skimming the

surface—there are students there that we could work with that we are not even getting to.

This is as far as the high school component, the program in New York City. As far as the summer program, I will turn it over to Dr. Broussard.

Dr. BROUSSARD. As far as the summer preparatory program, basically, over half of our students come from year-around program, and the other half come from the competitive eastern colleges.

We get that other half by sending letters to those colleges, explaining to them what the program is about, and asking for a list of all their minority students. Thereupon, we send a letter out to the students, explaining what the program is about, asking if they are interested to apply, to submit an essay and to submit a transcript.

That is how we select our students for the summer program. I would also like to comment on what Charlie said. One of the real problems with the year-around program, there are many students out there who would benefit from the program. I think that we have certain criteria in terms of minimum levels of achievement in the interview process, and in our essay, we try as much as we can to look for highly motivated and gifted students. In the sense of numbers, we cannot screen out.

We have had students, if you should look strictly at the paper in terms of numbers, who did not come out that great. But if you spoke to them, you found out what was going on with them, and they turned out to be really fine people, and they did very well.

We have a few people in the program, who are in medical school, and who unfortunately could not be here today, who are prime examples of that kind of thing.

As far as the summer program, I am sure that there is a need out there. We have limited ourselves to the eastern colleges because we are located in New York, and we can serve those colleges more easily. We can travel to them. The students can travel to those colleges.

I think that one of the points about the program is that it is replicable across the country, if people really want to do this kind of thing. The real obstacle is in terms of funds, the money to do this kind of thing in terms of a long-term commitment to achieve results.

A lot of people are talking about increasing the number of physicians from disadvantaged groups, but no one really knows what it is all about. No one knows in the sense of the degree of competitiveness in the undergraduate premed, the amount of diligence you have to have in medical school.

I think once you begin to realize what you are up against, you have to realize that it is a long-term commitment and this is why we have been successful. We have a long-term commitment, and we have worked very intensively with our students.

Mr. KILDEE. If we are going to increase the number of minority physicians and biomedical personnel, we have to reach deeper than we have been doing. We have to reach in to those who are eventually going to be entering the college and the medical school. I think that this bill would address itself to that.

Dr. BROUSSARD. At the junior high school level. Once we took in some very young students, and we brought them into the medical

center. People were astounded to see what were those young people doing in a place like this. This is mecca, and they should not be in a place like this because they cannot understand anatomy and open heart surgery, and this type of thing.

You would be surprised at how receptive those students were, and how motivated they were, and the level of understanding when people are interested in working with those students.

You have to go back to that level. I am a pediatrician by training, and I don't want to belabor you with the development of a child, but you really have to go pretty far. You have to reach that student before he is turned off. You have to work with him. You have to build his inner confidence by the time they reach high school, that they can do well, that they can compete, and there is something out there for them.

It is useful to find good students who are in high school and work with them. If you reach back further, you can find more students. One of the problems, you see, is that students will come and start speaking to them, and you will find how terribly discouraged they are. It is very hard to work with that kind of student you are dealing with something that happened over the years, over a long period of time.

I would like to turn to Dr. Alice Miller for any comments she has.

Dr. MILLER. I think that the issue of the junior high school student is extraordinarily important because we see students who have gone on to the neighborhood high school in New York City, who are not getting the kind of education they should receive.

They are there because they have not received the proper counseling in junior high school. If we go back to the junior high school level, we are going to repair the procedure process that deflects the students into a general diploma, commercial diploma, and put the student on an academic track.

It is too late to address that in the 10th or 11th grade. We should go back to the seventh grade, eighth grade, and identify that youngster who has the potential and get that youngster on an academic track.

I think with our experience now, 9 years of working with high school college students, our next test is going to be working with the junior high school students.

Mr. KILDEE. When I was teaching, I taught a language that was identified with the medical profession, Latin. I had an outreach program to bring minority students into my Latin classes because the counselors themselves did not feel that it was the proper place for them. They felt that it was in the machine shop, maybe, or someplace like that.

You still find that, even at this late date, in my profession. Some teachers themselves, help to perpetuate that lack of high self-image.

Dr. MILLER. They are depressing the high expectations that the students may have for themselves, and that begins to be perpetuated, so that the students develop the notion that they can just get by, they just pass, they are doing fine.

I think that when you talk with the students, and they begin to realize their enormous abilities, at that point you can begin to generate a great deal more motivation, and replace the student's rather

depressed expectations that may exist on the part of some of the counselors, in some of the schools.

Mr. KILDEE. Does anyone else wish to respond to that question?

Mr. Buchanan?

Mr. BUCHANAN. Thank you, Mr. Chairman.

Let me pursue that question just a little bit further. The bill as written begins with the ninth grade. Do you recommend that we go back to the seventh grade rather than the ninth?

Dr. BROUSSARD. Yes.

Mr. BUCHANAN. You think that it is necessary to do that for more than counseling purposes? Would it be acceptable to do that with counseling only in the seventh grade, or do you think that we ought to have the whole package available from the seventh grade on?

Dr. MILLER. I would hope that you would possibly go back to the seventh grade. I would hope that the funds that are available, as delineated in the bill, are not going to be spread right back to the seventh grade. I think that this is a potential problem.

A problem such as that is not all that costly, especially when you consider the consequences of not doing this with youngsters of this sort, some of whom might eventually drop out of school and might get turned off, who might then become problem students to themselves and to their families, and to the locale in which they live.

I think it is somewhat expensive and if you start taking it back further and further, you need a good deal more patience to wait and see the results, and you need a good deal more support also for those students, for example, from the 7th grade through the 12th of high school, and then through 4 years of college.

I think if you consider taking it back to the seventh grade, there has to be a concomitant commitment to follow those students through their entire education, and not drop them at a certain point. I think that that consistency of approach is crucial and not have some students started along that path, then after the 11th grade of high school, for example, say, "Now you are on your own. You have had a great headstart, now you are on your own."

Mr. BUCHANAN. Does PREP have academic programs in the summer?

Mr. BUTLER. The main thrust of the program is the academics, chemistry, calculus, and also English. This is done in approximately 5 or 6 hours of intense classroom instruction, through lectures, and tutorials.

Dr. BROUSSARD. We have an academic program after high school, during the summer. But if we take students as early as the 9th grade, between 9th and 10th, 10th and 11th, and 11th and 12th, the student works in community placements. I think that a number of our students have explained to you the need for that, and the benefit that they have gotten out of that sort of thing.

Their long-term goal is, I believe, to serve a group of people who are underserved in terms of health care, and to reinforce in that type of student the positive experiences and the positive feeling of contribution that they can have during the summer.

I think that this is one point in the bill, which probably should be amended.

During the school year itself, the laboratory program works very intensively with the student. We don't give the exams. We give them Saturday laboratory teaching. If they have deficiencies in certain areas, we attack those with tutorial services.

I think overall we give the students a high level of achievement in their high school subjects, so that they may go on to the more competitive colleges. But at the end of high school, if they have done well, they go into this extensive college preparatory program for a number of reasons, and they get a great deal before they go to college.

I think that the summer preparatory college program before college is sufficient to carry them on from that point on, at that point, in terms of rigorous academics, services.

There is also, as I mentioned in the testimony, services to attack a number of different areas which the colleges themselves have identified as problems for the premed students, in terms of tutorial services. How much time we should allow for tutorial services for premed; who should do those tutorials; what can we do in terms of getting students a meaningful summer job, in terms of keeping him on that premed track.

There is a lot of misconception about premed. I was a premed, and a lot of people were talking about doing voluntary work, which is of benefit and certainly worthwhile, but in terms of what the medical schools are interested in, or the overall level of expectation of those people who will be doctors, it is more beneficial for them to be placed in biomedical research jobs, or in community health placements, where they will actually boost their skills and, in a sense, have a more solid base of biomedical information at their disposal.

There are also other things available to the students in terms of coordinated efforts on the part of the eastern schools to have a sort of across-the-board financial package, so you will not find students at one school suffering unnecessarily because the school does not realize that another school is offering so much more money to their students, and they have differences in terms of not only their financial aid packages, but tutorial services and premed advisory services.

In a sense, what we have developed at PREP is a certain experience in dealing with the medical profession for so long, that we know the ins and outs. We know what the medical schools are thinking. We know the current trends at an undergraduate level.

It is very difficult for premed advisors, who may themselves be history teachers, or a romantic language teacher, to really keep on top of what is going on in the medical profession. They turn to us, and we tell our premed students what is in the picture, and where the medical profession is going.

I think that this is one thing that we can coordinate, and one thing that we are looking toward doing with the colleges. I think that there is a need for that. The colleges themselves have asked for that sort of thing.

Dr. MILLER. Going back to the issue, just for a moment, of what the students do during the summer. The students are working during the academic year in laboratories. They are working quite hard in their day-to-day subjects in high school.

We have found that the most important thing is by example as well as by statements to the effect that the students must learn while they are in high school the importance of working in an underserved community. It cannot come out of the clear blue sky when the student is in medical school.

That student should learn, while he or she is in high school, about his or her community, what the needs are in that community, and how important that student is potentially to address those needs 8 to 10 years later.

So we have students currently in the PREP program who return summer after summer to the same community, to work with the same physicians in the health centers, and the same health personnel. So that that community begins to look forward to seeing that person, eventually, as a physician, coming back.

This is not something that happens, again, overnight.

Mr. BUCHANAN. I like that aspect of the program. Ms. Gomez indicated that there was a need for this activity.

It seems to me that for the purpose not only of increasing the number of people from the minorities in the medical profession, but also for meeting the community needs, this exposure during the summer greatly increases the likelihood that such people will go back into the community.

Dr. MILLER. Most definitely. There does not have to be any pressure on the student later on, because the student wants, then, to serve those needs. Those people are his or her neighbors, and people with whom the student very often grew up.

What we are attempting to do through the mechanism of the college consortium is to arrange for just those kinds of placements for the students while they are in college all around the country. So that when they have their college vacation, they will return to hospital or health center, and they will, then, have that sense of continuity, and not, if they are going to a college that is 500 or 1,000 miles away, be isolated in a city to which they have very little connection.

Mr. BUCHANAN. I appreciate your patience. We are working on a tight schedule here. I expect that we will start marking up the bill next Wednesday. I would appreciate your careful review of the legislation as offered. Anything in your program or your experience that would suggest to you modifications in the legislation as offered should be brought to our attention as soon as possible.

Dr. MILLER. We certainly shall.

May I make one quick point that I don't think that we did make before.

I think that we have all been somewhat handicapped by existing legislation or regulations that are consistent. Where they are consistent, they tend to exclude the children of what I would consider blue collar, or the marginally working class child of marginally working class parents.

The regulations more than likely are well phrased and supportive of the poverty level youngster. But the existing regulations that we have found, very often, particularly the Upward Bound, which was mentioned, address themselves to the poverty level youngster, but,

for example, not to the youngster where both parents may have poorly paying jobs, but both parents are struggling to make ends meet.

So if you can consider that youngster, I think that it would be very, very helpful to our efforts.

Mr. BUCHANAN. Concerning student selection, do you support low-income levels or minority-ethnic classification as the test? How do you make the delineation in the PREP program?

Dr. MILLER. In the academic year program, we are seeking students in the New York City public school system, where all are minority students. It would be very rare, indeed, if we found a youngster who was affluent and attending the New York City public schools.

Most of those youngsters' families would have moved to the suburbs within the past 10 years. We do not require a means test at all. We feel that that is discriminatory and that it is, in any case, a cumbersome additional problem for the student.

We found that by parental occupation, I would say that we do not have any students, and we have not had any students who would be considered to be affluent.

Mr. BUCHANAN. You do not have a means test. Do we not have to put in the law something to identify those people and where the cut-off may be?

Dr. MILLER. We do not have a means test. We feel that the important aspect of different students coming from different socioeconomic backgrounds, while they may be minority students, that in itself is important. They are working together, and not simply being a student of a poverty level. This is a very important part of their maturing process.

In the summer college preparatory program, with the colleges occasionally accepting the very unique or rare minority student who may come from an affluent family, we scrutinize very closely what the interest and what the motivation, and what the concerns are of that student, not only in the way that he or she presents the idea, but also a record of prior service.

We don't feel that a more middle-class student should be discriminated against if that student has demonstrated definite service as a volunteer in a hospital, in a geriatric institution, in church groups that work with people who require health care.

We do discriminate, I might say, against any student, regardless of socioeconomic background, who does not seem to have any particular commitment, whose interest for going into medicine is to quickly become affluent himself or herself.

Mr. BUCHANAN. I wish that we could get into Government programs the kind of discretion you are exercising in PREP.

I would concur that a black high school graduate in the rural South, even from an affluent family, unless things have changed more dramatically than I think, might need this kind of help, notwithstanding the income. So you would not necessarily want to exclude such a person.

Finally, it sounds to me like you are doing excellent work, and you have foundation support. Is it simply that there is not sufficient

foundation support available for you to reach enough people, or that there cannot be enough PREP's in enough places as presently funded, or what?

Dr. MILLER. The foundations have been supporting us. It has been a rather unique situation. They have been supporting us for about 9 years, and we have practically exhausted their funds.

I also think that the traditional role of the foundations has been to start programs, and stick with them for a couple of years. Because there was a sense that this fulfilled an important social need, they stayed with us for 9 years. I think that they are beginning to ask whether we can't find other means of support.

Also, at present this program cannot be replicated in other places. I think that this legislation addresses that need, not just to replicate but also to adopt. I don't think that we have the last word on this. I think that each area is going to find the need to adapt the program to its own locale.

Dr. MELNICK. I would like to bring up a couple of points here. I just wanted to address two points here.

One, PREP is a commendable program, and one of the programs that has been highly successful. But however, there are several other programs which have similar interests and similar missions and there are compilations of such programs that are available specifically, that address disadvantaged students, to orient them toward biomedical education. I feel that they should also be given recognition for that fact, and also be taken into consideration.

The second is that when you asked for recommendations for modifications of the bill, I would suggest that when you fund the program for the first year, there should be some time for a startup, and that is to invite applications from institutions, with the idea of having such projects, to outline their proposal, so that the feasibility and the effectiveness of the proposed programs could be studied.

From there, you could then select a group which would seem most fit in being able to deliver the kind of services that they can do.

I think that when you have a large amount of money the first year, to be given to a program, everybody is going to apply, and say: "We are capable of doing that." But I think that there has to be some kind of an effective filtering mechanism which will sift out the people who are interested mainly because there is money available, as opposed to those who can really deliver the service.

Mr. BUCHANAN. Thank you very much.

Mr. KILDEE. I want to thank all of you. You have been both informative and persuasive. I know that the chairman appreciated very much your testimony. He has some other responsibilities now. He is chairman of the full committee, too, so his responsibilities are many.

I think that the program you have described is an excellent program, which is certainly worthy of replication and adaptation to the various needs throughout the country. I would hope that we could do something to assist you. I can only speak for myself, but I am very impressed. Thank you very much for your testimony.

[Additional information for the record follows:]

Testimony of Hon. Edward R. Roybal, a Representative in Congress From the State of California

Mr. Chairman, I thank you for giving me the opportunity of testifying in support of H.R. 10736, a bill authored by myself and my colleagues, Mr. Pepper and Ms. Chisholm.

The purpose of the bill, Mr. Chairman, is laudable. H.R. 10736 would amend the Elementary and Secondary Education Act and authorize up to 40 million dollars in grants to institutions to operate programs in partnership with area high schools and a graduate biomedical science institution.

As I am sure the members of this Subcommittee know, pre-medicine has become one of the most fiercely competitive fields in colleges and universities nationwide. The programs which would be funded by H.R. 10736 would be geared towards improving a student's skills in mathematics, basic sciences, written comprehension and expression. Through the successful implementation of these programs, I am convinced, Mr. Chairman, that the ability of a disadvantaged student to successfully complete an undergraduate course of study in the biomedical sciences would be significantly enhanced. However, even if a student should decide that he does not want to go into the biomedical field, the skills to be mastered through the programs under this bill will be skills that will serve him or her well in whatever profession the student finally decides to follow.

Mr. Chairman, the need for these programs, like the purpose of the bill itself, is beyond dispute.

While ethnic minority groups comprise more than 18 percent of the country's total population, their numbers in the biomedical

sciences and health professions are nowhere near in proportion. A recent HEW publication states categorically that compared to non-minority students and researchers in the biomedical sciences, ethnic minority members have long been at a disadvantage to obtain the proper training to meet today's biomedical challenges. The publication also goes on to state that when minority students reach the stage for necessary advanced training, they often find that inadequate preparation has put them at a competitive disadvantage.

The statistics in this area, Mr. Chairman, are truly appalling. In 1973-74, one out of 14 majority students who entered and completed baccalaureate programs in physical sciences, life sciences and mathematics also entered and completed Ph.D. programs in those fields. However, only one out of 55 minority students did so. The National Academy of Sciences' comprehensive roster of doctorate scientists and engineers shows that minority groups in 1973 made up only a little more than 2 percent of the nearly 200,000-person, Ph.D.-level science and engineering workforce in the United States.

In my own state of California, it saddens me to say, the statistics are no less depressing. While blacks and Hispanics constitute approximately 25% of the general population, only 2.2% of the employed physicians are black and a scant 1% are Mexican-American.

For whatever reasons, the virtually all white (to say nothing of all male) medical profession has not provided minimally acceptable service in minority communities. Testimony presented last March before the California Assembly Permanent Subcommittee

on Post Secondary Education indicated that while one physician for 1124 persons is considered the minimally adequate ratio by the California Department of Health, persons in black and Mexican-American areas have approximately one primary care physician for 2400 persons.

It is not my position that every minority graduate will serve the community from which he or she came. The reality is, however, that such a student is more likely to practice in minority communities and most minority students have indicated their desire to serve the unmet needs of these communities. It is also logical to conclude that a minority presence in the medical school will serve to make other non-disadvantaged students more aware of the problems and the needs of the minority population.

I have tried very briefly, Mr. Chairman, to make you and the other members of this Subcommittee aware of the evils that H.R. 10736 tries to correct. However, if disadvantaged students are not given the opportunity, if they are not prepared to compete successfully for the ever more competitive slots in the biomedical professions, these intolerable conditions will continue.

I urge you to support this bill.